APR 21 1980
AMBASSADOR
COLLEGE LIBRARY

THE MANKIND QUARTERLY

VOL. XX, Nos. 3 & 4 JAN.-APR./1980

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Malthus

William Petersen

"The best exposition of Malthus to be found anywhere." —*Robert Nisbet*

This book offers the first full and accurate exposition of Malthus's thought, integrating his famous population theory with his ideas on economic development and social structure. Petersen provides an accessible exposition of Malthus's economic theory, appraises his ideas on the birth-control movement, and reviews population trends and demographic theory over the last 150 years as a base from which to judge Malthus's principle of population. $17.50

Roots of Modern Mormonism

Mark P. Leone

Leone comes to new conclusions about Mormonism, both as a self-sufficient religious sect and as a movement within the broader context of American history. Applying the tools of anthropology, he discovers how an outcast utopia of the 19th century achieved worldwide success in the 20th. Diaries, native histories, judicial records, and correspondences vividly portray Mormon life and history. $15.00

The Prehistory of Polynesia

Jesse D. Jennings, Editor

An outstanding group of international experts of Polynesian archaeology and anthropology takes the story of Polynesia from its origins near the eastern tip of New Guinea to the first encounter with Europeans, just two hundred years ago. The focus of the book moves chronologically from the early Lapitan villages to Fiji, Samoa/Tonga, the Marquesas, East Island, Hawaii, the Society Islands, and New Zealand. Further chapters explore the evidence provided by studies of the contemporary Polynesians and their environment: linguistic, biological, ecological, and navigational. 106 halftones, 22 maps, 33 line drawings $35.00

Dialectical Societies

The Gê and Bororo of Central Brazil

David Maybury-Lewis, Editor

The Gê-speaking tribes of Central Brazil have always been an anomaly in the annals of anthropology. *Dialectical Societies* at long last demystifies Gê social structure while modifying and reinterpreting some of the traditional ideas held about kinship, affiliation, and descent. Each contributor discusses a different lowland tribe, but all address an ideological focus on the dualistic tribal organization that is here defined as fundamental to the Gê. *Harvard Studies in Cultural Anthropology, 1* $25.00

harvard university press

cambridge, massachusetts 02138

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

VOL. XX, Nos. 3 & 4 JAN.-APR. 1980

THE MANKIND QUARTERLY

GENERAL EDITOR
Appointment Pending

ASSOCIATE EDITORS
HANS W. JÜRGENS (Kiel, West Germany)
RICHARD LYNN (Coleraine, Northern Ireland)

EDITORIAL ADVISORY BOARD
John R. Baker, Oxford, England; Peter Boev, Sofia, Bulgaria; J.C. Carothers, Bedhampton, England; Tadeusz Dzierzykray-Rogalski, Warsaw, Poland; Raymond B. Cattell, Honolulu, Hawaii; A.P. Elkin, Sydney, Australia; John L. Horn, Denver, Colorado; J. Balslev Jørgensen, Copenhagen, Denmark; David de Laubenfels, Syracuse, New York; Bertil Lundman, Uppsala. Sweden; Frank C.J. McGurk, Atlanta, Georgia; Daniel J. Casey, Oneonta, New York; Jens Palsson, Reykjavik, Iceland; David C. Rife, Clewiston, Florida; Robert H. S. Robertson, Pitlochry, Scotland; H. Vallois, Paris, France; E. Peter Volpe, New Orleans, Louisiana; R.J. Walsh, Sydney, Australia; Volkmar Weiss, Leipzig, D. D. R.

FOUNDER AND HONORARY EDITOR-IN-CHIEF
ROBERT GAYRE (Edinburgh, Scotland)

FORMER ASSOCIATE EDITORS
† MARIO CAPPIERI
† R. RUGGLES GATES
† CORRADO GINI
† HENRY G. GARRETT

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

VOL. XX, Nos. 3 & 4 JAN.-APR. 1980

CONTENTS

THE BAYAKA PYGMIES OF CENTRAL AFRICA IN THE LIGHT OF HUMAN ETHOLOGICAL RESEARCH WORK
By *Armin Heymer* 173

THE RELATION BETWEEN ABO BLOCD TYPE AND FACTOR OF PERSONALITY AMONG SOUTH MISSISSIPPI 'ANGLO-SAXON' SCHOOL CHILDREN
By *Donald A. Swan, Garnett Hawkins, and Betty Douglas* 205

SACRED CENTERS AND SYMBOLIC NETWORKS IN SOUTH ASIA
By *James J. Preston* 259

RELIGIOUS ADAPTATION IN ECONOMIC ORGANIZATION: THE CASE OF POTTERY MAKING AND EXCHANGE IN CHOWRA ISLAND
By *G. P. Reddy* 295

A SURPRISING ANTIQUITY: EDWARD LHUYD AND LITERARY ARCHAEOLOGY
By *Shirley Ann Kahlert* 305

THE ANTHROPOLOGICAL ORIGINS OF THE THRACIANS
By *Peter Boev* 321

THE EVOLUTION OF THE SPARTAN SOCIAL SYSTEM
By *John W. Richards* 331

BOOK REVIEWS 345

INDEX TO VOLUME XX 352

Cover Picture: Thracian Soldier and a Woman holding a Sickle — Detail from an Attic Red-figured Bell Krater from about 440 B.C. (Venedikov, 1977)
(See: *The Anthropological Origins of the Thracians*)

Publication and proprietorship of The Mankind Quarterly has been assumed by the Cliveden Press, a branch of The Institute for the Study of Man, Suite 520 - 1629 K Street, N.W., Washington, D.C. 20006, U.S.A. (Telephone (202) 232-1040). Readers in the United Kingdom may subscribe through the Edinburgh Office at 1 Darnaway St., Edinburgh EH3 6DW, Scotland. The price of subscriptions is $20 (£8) per annum for private individuals and $40 (£16) per annum for libraries, institutions and other corporate bodies. Special reduced three year subscription rates are available, at a cost of $55 to individuals (twelve issues) and $110 for libraries and other corporate bodies (twelve issues). Members of the academic community and other qualified readers are invited to contact the General Editor at the U.S.A. address with a request for style sheet should they be interested in submitting manuscripts for possible publication. No manuscripts should be sent to the General Editor without a stamped and addressed envelope for return. ISSN 0025-2344

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE BAYAKA PYGMIES OF CENTRAL AFRICA IN THE LIGHT OF HUMAN ETHOLOGICAL RESEARCH WORK

ARMIN HEYMER

Introduction

In a letter to Prince Herkuf, leader of a royal Egyptian expedition into the southern forests, Phiops II of the VIth dynasty ca. 2500 - 2400 B.C.) expressed his eagerness for the caravan's early return, as they were bringing with them a real dwarf. The Pharaoh's childish enthusiasm would be incomprehensible if it had been some sort of freak, or a pathological dwarf, of which there was certainly no shortage in ancient Egypt. But the letter mentions a real dwarf, who can dance the gods' dances. All indications point to a pygmy. Africa, at the beginning of this century, offers several analogies for this well-documented Egyptian custom of keeping dwarves at royal courts. Dwarves – in this case authentic pygmies – figured in the ceremonial of many Hamite (Ruanda) and negro potentates. Very detailed treatises on the pygmies and their history have been given by Schebesta (1938) and Hallet (1973).

There are two possible sources for the name pygmy. It may derive from *Pi-mahi* (16 ells [cubits] high), a measure of water level once used in the Niloscope. More probably, however, it derives from the Greek word Πυγμη (a measure of length, elbow to knuckles) or from Πυγμαιος (Aristotle - *De animalibus historia* I, VIII, 12). While pygmies are often mentioned in antique mythology (Homer – in the Iliad, Hecataeus of Miletus, Herodotus, Pliny etc.), in the Middle Ages their existence was dismissed as a "fairy story." It was in 1870, more than 4000 years after their discovery by the Egyptians, that Georg Schweinfurth again came across them. Intensive and serious research of these interesting people soon began, the first reports were published by Schlichter (1892) and Panckow (1892). Initial research was concentrated on the Ituri pygmies.

Distribution of the pygmies in Africa

A few thousand years ago, roughly at the time of the Egyp-

The Mankind Quarterly, Vol. XX, Nos. 3 & 4 (Spring/Summer 1980)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tian discovery, the pygmies presumably occupied a wide, continuous area over the whole equatorial rain-forests. Nowadays their distribution shows a retirement-area structure, and this must have been the case 100 years ago in Schweinfurth's time, for it was long thought that pygmies were to be found only in the Ituri forest.

The Ituri pygmies are generally known as Bambuti, Ba-Mbuti or just Mbuti, being the names used for them by the Bantu and Sudanese living in the region. But the Ituri pygmies recognize a division into three great tribes, which they themselves call the Aka, Sua and Efe (Fig. 1). Anthropologists and ethnologists concentrated almost exclusively on this field; of the many publications on this theme only the most important (Schebesta 1938, 1941, 1948, 1951; Gusinde 1948; Turnbull 1961, 1965; Hallet 1973) will be named, as comprehensive lists of the literature are to be found in each case.

Further to the south of the Ituri, from the Congo almost as far as the Angolan boundary, and into Ruanda eastwards, live scattered pygmy populations of which we know little, generally referred to as the Twa (Fig. 1). All we have are two long reports by Schumacher (1949, but especially 1950) on an isolated population in Ruanda.

An isolated pygmy group often called the Bedjang still lives, strongly acculturated and in close community with the Tikar, in the Djanti Mountains north of Bafia in the highlands of Central Cameroon over 200 km north of the tropical rain forest (Thorbecke 1913, Letouzey 1967).

In the western equatorial forest there is another large pygmy population, with a range covering South Cameroon, Northeast Gaboon, the Northern Congo and what remains of the rain forest in Southwest Central Africa (Ubangi-Chari). The first to give a comprehensive study of these western pygmies was Trilles (1932). Nowadays these little people are strongly acculturated, especially in Gaboon, and most of them have settled, mainly those north and east of Mekambo. They are known by a great many names, including Babenzele, Bakola, Babinga, Bagielli, Bongom. Many Bantu call them Ba-Mbenga, Bantu for spear-carrier, which the whites first deformed to Ba-Benga and finally to Babinga, one of the commonest appellations to date. But although they are frequently used in anthropological and ethnological literature, these terms are wrong and should be

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

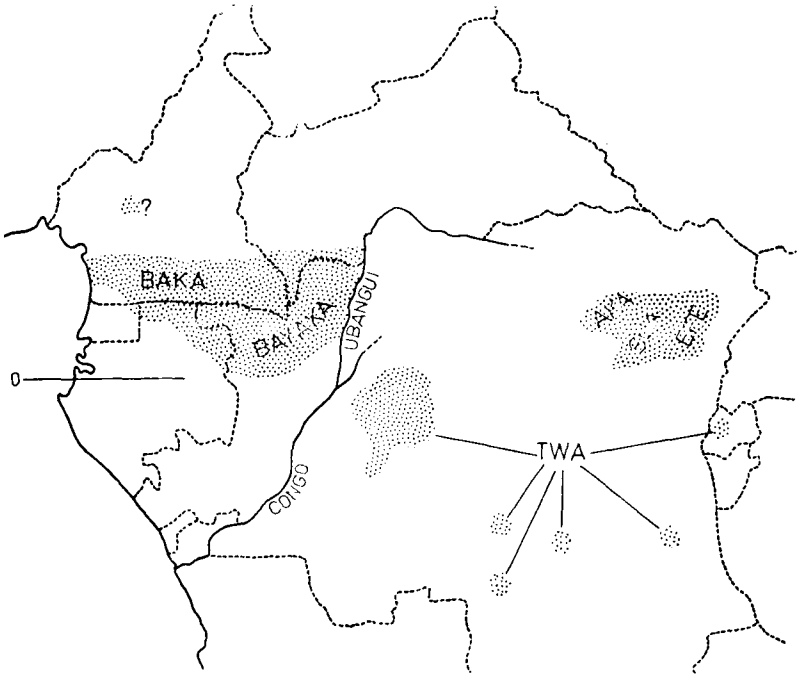


Fig. 1 Geographical distribution of different Pygmy peoples in Equatorial Africa, compiled according to recent bibliographical and personal records.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

avoided, as they cause confusion. In the north of Gaboon and in South Cameroon the pygmies call themselves Baka, whereas the Fang and Kuelle (Kwelle) often call them Bayaga or Bayacha, the Fang also using the term as abuse. The eastern pygmy groups, however, in the north of the Congo and in Ubangi-Chari call themselves Bayaka. Settled clearing-planters there, the Ba-Gandu and I-Songo, call them Ba-Binga, or sometimes when speaking French they say "les pygmées."

This great confusion of names, even in the literature, has come about because many anthropologists and ethnologists have not always investigated thoroughly, and have satisfied themselves with the nomenclature used by the Bantu tribe in whose vicinity the pygmies happened to be, without bothering to find out what the pygmies really called themselves.

Very little was known about the western pygmy groups, with the exception of the much-disparaged work of Trilles (1932) on the Gaboon pygmies, and many short reports. Letouzey (1966) attacked the problem of an aboriginal pygmy language. Genetic studies were made by Cavalli-Sforza (1971), and Bahuchet (1972) carried out ecological investigations. The long-term research work done by Vallois over 30 years ago found expression at last in a voluminous monograph (Vallois + Marquer 1976).

Study area

The accultural state of the Baka in Cameroon and Gaboon made this population seem unsuitable for human-ethological studies; the traditional social structure had been relinquished, the pygmies had settled along the traffic routes as did the taller Fang, Kota, Kwelle and Mahungwe, they had become sedentary and lived in rectangular huts. According to information detailed by Steinfurth and Jürgens (both *in litt.*) in forested areas along the Sangha and Lobaye rivers in Central Africa there still live relatively untouched pygmy groups which have hardly experienced disturbing influence, and which are relatively independent of the clearing planters. It seems an attempt had been made to take a numerical census, but most of the pygmies knew how to evade it.

During my study period in Central Africa, from November 1975 to January 1976, I found, 150 km southwest of Bangui, hard upon the Congolese boundary (Fig. 2), several camps of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

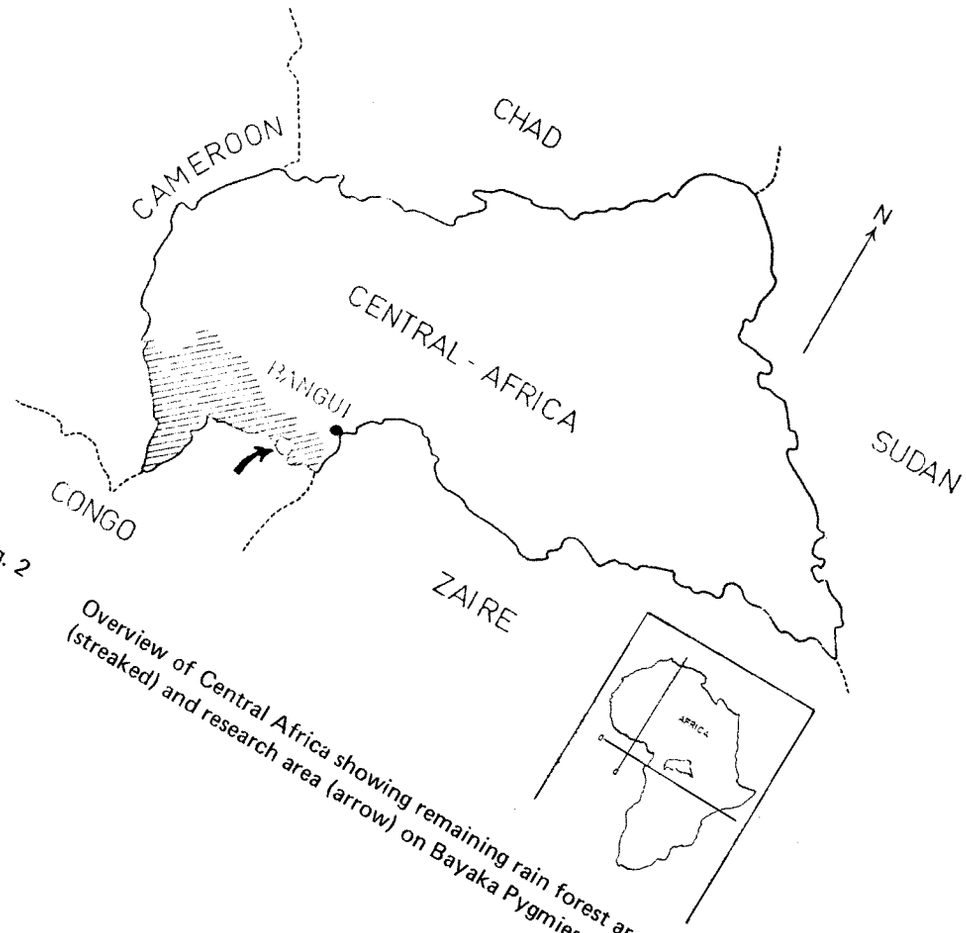


Fig. 2 Overview of Central Africa showing remaining rain forest areas (streaked) and research area (arrow) on Bayaka Pygmies.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Bayaka pygmies. Of these I chose a group in the vicinity of the villages Loko and Ibengé (Fig. 3) for my study, only a few kilometres south of Lobaye in the primary rain forest.

When I first arrived the community investigated numbered 73 persons, later on 3 others joined them. They lived in four camps of different sizes, each containing 5 - 9 huts. The forest camps, 1 - 2.5 km distant from each other, were connected by foot-tracks. On the 27.XII.1975 the inhabitants of camp 2 moved to a new point almost 3 km further west (cf. point 2 a, Fig. 3).

For film work, and the collection of human-ethological data I concentrated chiefly on camps 1 and 2, whose contacts were closer than with either of the other camps. All films were taken with a silent Arriflex BL 16 using mirror lens for side-ways filming (cf. Eibl-Eibesfeldt and Hass 1966).

Phenotype of the Baka and Bayaka

Morphologically, the two "tribes" form a consistent ethnic population. Their general appearance and physical characteristics distinguish them quite clearly from the Bantu and the other taller African types.

This also applies to the Ituri pygmies, who are however on the average smaller still: Gusinde (1948) measured 892 adults and found an average height for 510 men of 144 cm and for 382 women of 137 cm. In respect of the Baka and Bayaka Cavalli-Sforza (1969) and Vallois + Marquer (1976) agree upon average measurements of 153 cm for males and 144 cm for females. The skin of the Baka and Bayaka is usually yellow-brown to copper-coloured, darkening with age. The hair of the head is tightly spiralled, forming tufts or 'peppercorns' (Fig. 8) and when longer becoming matted (Fig. 9, left). Many pygmies have an abundance of body-hair, some of them a well-developed beard growth (Fig. 9). These characteristics are lacking in the Fang and other Bantu in the same area. The Baka and Bayaka are dolichocephalic to mesocephalic, usually with a bulging forehead. The mouth is generally wide, with very narrow, sometimes beautifully-formed Europoid lips (Figs. 10 a + b), while the form of the ears is also mainly Europoid. The nose however is exceptionally wide, scarcely to be matched in other ethnic groups. The eyes are dark brown, the whites bright and clear, whereas in most Bantu the whites are tinged yellow.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

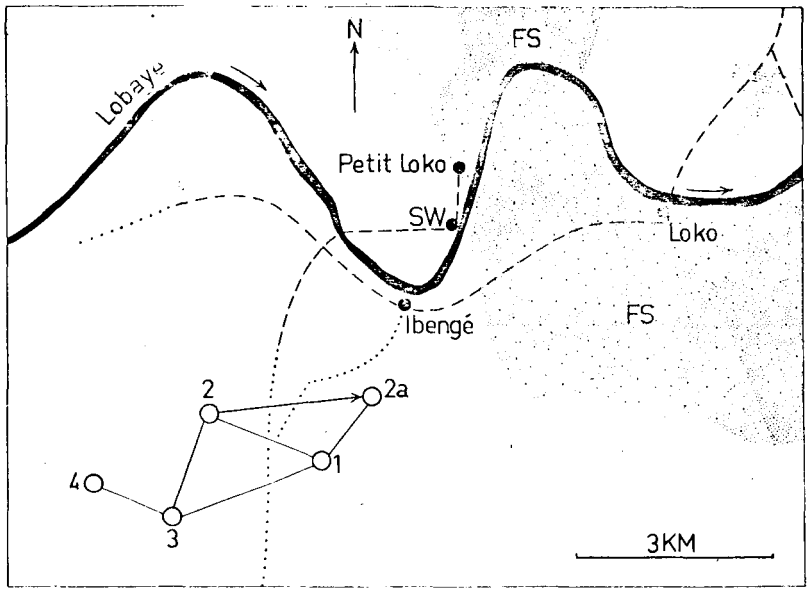


Fig. 3 Research area in the rain forest on Lobaye River showing camp sites 1 - 4 of the studied Bayaka band. FS = secondary rain forest, dashed line: laterite roads, dotted line: footpaths.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Fig. 8 Sleeping Bayaka girl from the Lobaye with very short hair showing clearly the peppercorn structure.
Photo: A. Heymer

Fig. 9 Two Baka men from South Cameroon with well developed beards; on the left, note the long matted peppercorn hair.
Photo: Vallois + Marquer (1976)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Fig. 10 a) Baka man *Andu* (clear type) from North Eastern Gaboon, b) Bayaka elder *Musanki* (dark type) from the Lobaye; both showing the large and flat nose with very pronounced nostrils as well as Europoid ears and lips, typical characters of all African Pygmies. Photos: A. Heymer

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Fig. 11 For a phenotypical comparison, two faces of Efe Pygmy men from the Ituri Forest, Eastern Zaire.
Photos: J. P. Hallet, Pygmy Kitabu

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Fig. 12 Bayaka woman *Ebunga* from the Lobaye at her fire-place in front of her hut. She is able to bend down easily with stiff knees and legs and to flex her arms without difficulties, an attitude almost impossible for Europeans. Note the liana string round the body at breast height and the bundle of leaves at the buttocks.
Photo: A. Heymer

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

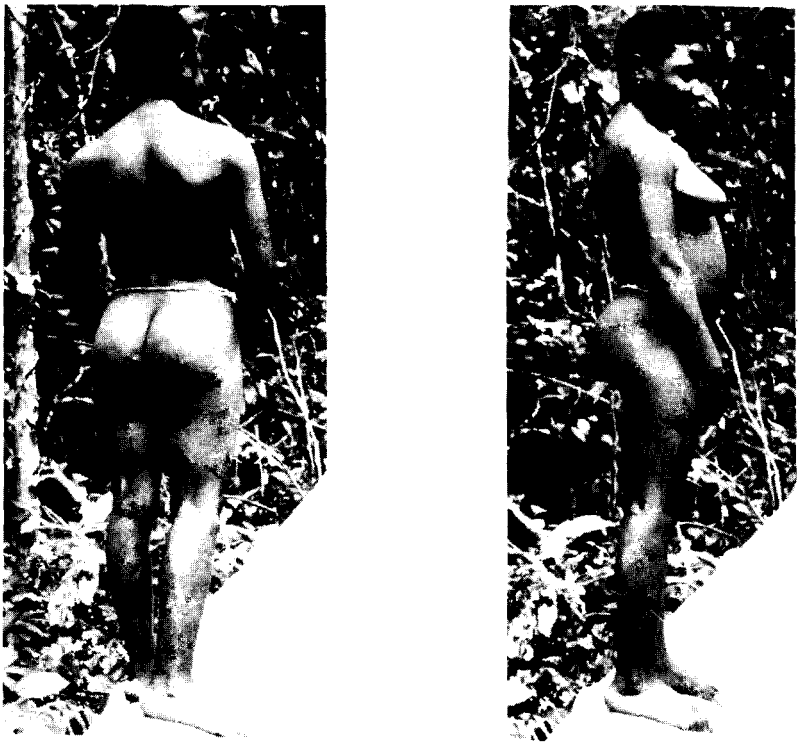


Fig. 13 Baka girl *Mukongo* from North Eastern Gaboon. Note the shoulder-pendent conical breast, lombar lordosis and slight steatopygia.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Fig. 14 Two Bayaka youths from the Lobaye with filed incisors. From a 16 mm film of the author.

Fig. 15 Bayaka woman from the Lobaye during hut building; note the string round the breast (see explanations in the text). Photo: A. Heymer

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Fig. 16 Bachelor youth *Mongatschu* coming from another band and sleeping under a wind-shelter in the camp of elder *Musanki* (see Human Ethological Film HF 84).
Photo: A. Heymer

Fig. 17 Bayaka hunter with nets and the typical primitive Pygmy hatchet.
Photo: A. Heymer

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Fig. 18 Bayaka elder *Musanki* (see also Fig. 10b) with hip string and loin-cloth pulled between the legs. The use of cloth is a sign of acculturation.
Photo: A. Heymer

Fig. 19 Very old woman *Ambije* from the Lobaye roasting nuts in European iron pots.
Photo: A. Heymer

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Hallet (1973) found blue-eyed individuals among the Efe of the Ituri. In Central Africa, I myself found a light-skinned Bayaka infant with dark blue eyes, not however within the study group. The general impression is that the pygmies are not well-proportioned, but have a long torso, very long arms and relatively short legs; they are able to bend down easily without flexing the knees (Fig. 12). Rensch (as cited by Schwidetzki, 1971) assigns them consequently to the paedomorphs. Marquer (1972), however, pronounced after a study of skeletons that they were of very primordial humans: "L'étude du squelette révèle, à côté de caractères nettement évolués, un complexe qui trahit un certain degrè de primivité. Ceci conduit à penser que les Pygmées constituent, avec les Boschimans, un des substrats humains les plus anciens d'Afrique . . ." Hallet (1973) has even described them as the oldest and most primordial humans ever: ". . . African pygmies are actually the surviving roots of man's racial, religious and linguistic origin . . . the direct ancestors of *all* the races." Although we cannot agree with Hallet on this, the examination of blood genes has disclosed an indicator that they are the oldest and most primordial representatives of the negroes. Newest investigations have found the rare blood gene indicator PGM_2^9 in Bayaka Pygmies (Pinerd *et al.*, 1977). This PGM_2 variant was discovered by Kirk *et al.* (1973) and also by Blake and Omoto (1975) in red blood cells of natives of Papua New Guinea. In this connection it is interesting to note that the frequency of the allele p^r of phosphatic acids in Bayaka pygmies is very close to the one of South African Koishan. On the other hand, Vergnes *et al.* (1979) claim to have found a typical Pygmy gene $PGM_2{}^{6Pyg}$, which must be regarded as a characteristic "Pygmy marker"; it has never been described in the primitive Koishan or any other human population. This would point to the primordial nature of pygmies, Bushmen and asiatic Negritoes. This is endorsed by other phenotypical but probably genotypically determined characteristics, such as steatopygia, combined with a similarly slight lumbar lordosis, as found in pygmy women (Fig. 13), and spiralling "peppercorn' hair in both sexes (also found in the dwarf populations in the Andaman Islands: Harrer 1977).

The breasts of pygmy women are usually shoulder-pendent and conical, without a nipple precinct, and only rarely with

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

rounded projecting nipples as in most Europoid and Negroid women. The Baka and Bayaka practise the peculiar custom of filing their incisors to points (Fig. 14). Vallois and Marquer (1976) describe the custom in detail, but so far its significance is unknown. In many women the upper lip is pierced in the middle, but only occasionally is a wooden plug inserted and worn as a decoration.

Social structure and activities

The Bayaka pygmies of the rain forests in south Ubangi-Chari and in the northern Congo live in hordes of 60 - 80 persons of both sexes and all ages. Such a band has no fixed settlement, but wanders over a large area (territory) of ca. 800 - 1200 km^2 according to the cyclic ripening of foodstuffs, i.e. ecological conditions. The boundaries of such a territory are usually rivers and brooks, and every pygmy of a band knows exactly how far its territory extends, and the locations of its boundaries, which are never crossed, either in hunting or to erect a camp. The 'sovereign territory' of each band is respected at all times by all the pygmies (cf. in this respect also Bahuchet 1972, 1978 in prep., Ballif 1976, Steinfurth pers. comm.). Only in the case of pairformation can boundaries be disregarded.

The pygmies of a band split up at a camping place to erect shelters, in our case these consisted of 5 - 9 round huts for pairs and families with children. Only women work at hut-building (Fig. 15). Supple branches and lianas are rammed into the earth in a semicircle to form a domed lattice with a round or oval floor. Diameters and heights vary. The lattice is then covered with the hard, smooth, very firm leaves of various *Phrynium* genera of the family of Marantaceae. The leaf-stems are split lengthwise with the pointed incisors, then fastened to the lattice side by side and overlapping, like a tiled roof.

Such primitive huts can be constructed within 2 hours, and can withstand rain and storm for a while, generally for ca. 4 weeks, somewhat longer in the dry season. The pygmies rarely stay longer than 4 - 6 weeks at the same camp site; they move to another for no obvious reason, unless it is because of the considerable amount of refuse which has accumulated nearby. If the whole band does not move, the little group may strike a new camp some 500 m to 2 km away, to keep in social contact with the others, as practised in our case by the inhabitants of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

camp 2.

Both Bayaka and Baka are familiar with the rectangular wind-shelter under which the bachelor-youths from other hordes sleep (Fig. 16), as no woman of the camp is willing to build them a circular hut. The 8 - 10-year-old girls and boys are subject to *extrusion* in their own band, i.e. they sleep separated from the parents in their own circular hut within the group. Not all huts are practically closed, in igloo fashion, with a small entrance only navigable in a bent or even crawling posture; some are wide open and very reminiscent of the open wind-shelters of the Kalahari Bushmen, and pygmies can enter almost without bending. When the pygmies travel long distances to a new food source, new huts are erected every evening, and used for one night only. An abandoned camp site disintegrates quickly and is covered with luxurious vegetation and hardly recognizable again after a year.

As a rule camps are representative of family groups; but family and group bonds also exist between camps. Visits are exchanged, gossip exchanged, the women cuddle one another's babies and the children play together. The band is however a loose group without steady numbers, whereas the family must be regarded as the basic unit. Often a family will suddenly disappear, to travel far through the forest alone for a while. Another family may appear without warning and join the band, as we observed in camp 1. As yet we do not know the causal connections of such fluctuations, as the phenomena have been explored by neither anthropologists nor ethnologists, even when they lived with the pygmies for long periods. Asking questions, a method suggested by some ethnologists (*in litt.*), brings us no further. In this connection I would like to refer to the very important observation made long ago by Kidd (1906) in the course of his investigation of native children's games in Natal (cited by Eibl-Eibesfeldt, 1972, pp. 28-29).

Neither band nor camp-site group has a chief such as the Bantu tribes have (inherited chiefdom), but in every camp there is an "alpha" pygmy, or *primus inter pares* enjoying universal respect, who will listen to both sides in the event of a quarrel and suggest a settlement. The most apt designation of such a man seems to be the word "*elder*" (Turnbull, 1965; Hallet, 1973), which not necessarily refers to the eldest man. When the whole band hunts, one of the elders from the various camps functions

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

in some ways as leader, giving advice and suggesting possible courses of action, although decisions are made by common consent, not authoritatively.

Like their relatives the Aka, Sua and Efe of the Ituri, the Baka and Byaka are in principle *monogamous* and *exogamous*, i.e., the partner must come from another band. It is always the youth who seeks his future mate in another band, and usually the girl leaves her own family then and joins the man's group (Schebesta, 1948) as usual in *virilocal* practice. The pygmies are well aware that children are the products of sexual intercourse, and they value large families. Contraceptives, however, are known, whose ingredients are won from plants, but the formula is not as yet researched. During my stay I found no evidence that the Bayaka ever killed unwanted newborn babies.

The Bayaka are net and spear hunters, but they also use the crossbow probably brought to Africa by the Portuguese. Their arrows are poisoned *(Bangchi)*. The spear (*Ikongo*) and a primitive iron hatchet (*Tschumbi*, Fig, 17) are always carried by a pygmy in the forest, in readiness to catch birds and small mammals. But hunting with the net is something special to the Bayaka and all band members, men, women and children, participate. *Musanki*, the elder from camp 1, led the hunt in our band. A number of young men each carry two of the nets, which are about 1 m high and 20 m long. Their ends are provided with artistic wooden hooks. The nets are spread among boughs and bushes and pulled taut. The whole construction is ca. 250 m long and forms a semicircle in the undergrowth. A few of the men remain with weapons ready near the net, the others join the women and children in a wild beating manoevre, closing in upon any animals which happen to be there and driving them towards the net, with screams and the thrashing of boughs on the vegetation. Often they are aided by 'non-barking' Pariah dogs wearing a bell so that the hunters know where they are. This bell (*Elebo*) is made from the fruit of the savanna palm *Borassus aethiopum* which is probably obtained by barter, as it does not grow in the primary rain forests. The bell's tongue consists of the tibia of the small forest gazelle *Cephalophus monticola*, the most frequent prey in the Lobaye forest.

Once a gazelle is caught in the nets, the waiting men fall upon it and kill it instantly with their spears. The animal is then in-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

variably the property of the owner of the net in which it was caught; he who killed it gets the head, and anyone who may have helped in the killing gets a piece of breast. The net-owner usually keeps a haunch and the entrails for himself, and divides the rest as he thinks fit.

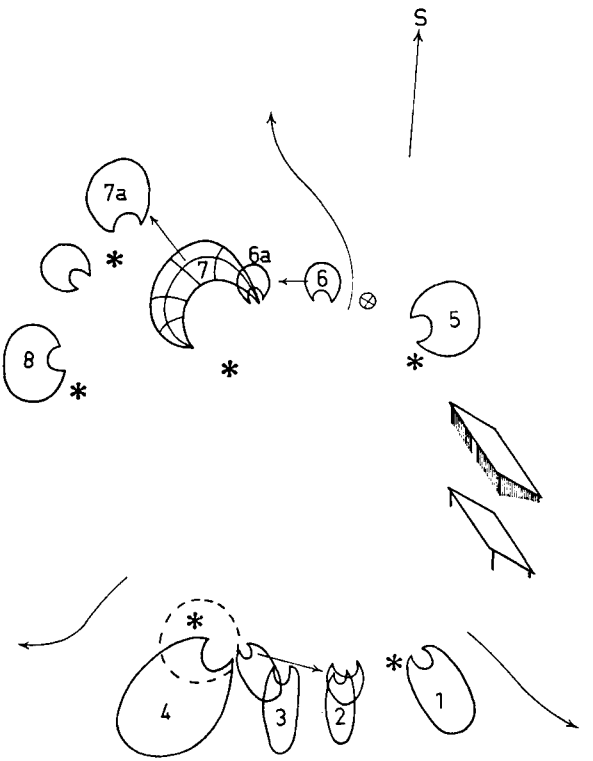
Hunting with nets to obtain animal protein would be impossible for the inhabitants of single camps, only when all members of all the camps, that is when the whole band participates, is hunting success practically certain. It is indispensable therefore that the various camp communities, although living at a remove from each other, always remain in friendly contact and work together whenever necessary. In this sense, net-hunting can be regarded as a primary *group-bonding mechanism* in the Bayaka, having a not inconsiderable function in the reduction of stress and aggression – which seems to appear inevitably when people live together.

The setting up of traps, or indeed the use of a gun (Bahuchet 1972) to obtain more meat, or fishing as the Bantu do (Steinfurth, 1973, on the Sangha, and my own observations on the Baka in Gaboon) seem to be the results of acculturation. I did not see either method used by the Bayaka band studied.

Hunting in which the whole band participates takes place only once, at most twice a week. On other days every camp community, indeed every individual family, pursues its own activities. Collecting fruits is then one of the main tasks, particularly of the women and children. Wild fruits and root tubers supply the mass of the food eaten, while quite a contribution is made by honey from the wild bees (*Hoki* from *Apis mellifera, Dandu* from the Trigonidae) which has an extremely fine taste for the European (*Tendele*) too. Large quantities of the various species of the processionary moth caterpillars are collected (*Ganga, Fussu, Daku*) or of nets containing cocoons. For further details, and above all quantitative specifications on the subsistence ecology of the Bayaka on the Lobaye I would like to refer to Bahuchet (1972 and in prep.).

Living in small groups in the forest, failure to hoard up reserves, and the resulting daily search for food, mainly plant food, as well as the frequent change of camp site are to be regarded as adaptations since the earliest times to the ecological conditions of the equatorial rain forests (hylae). Astounding parallels are revealed to the life style of a primate, the chim-

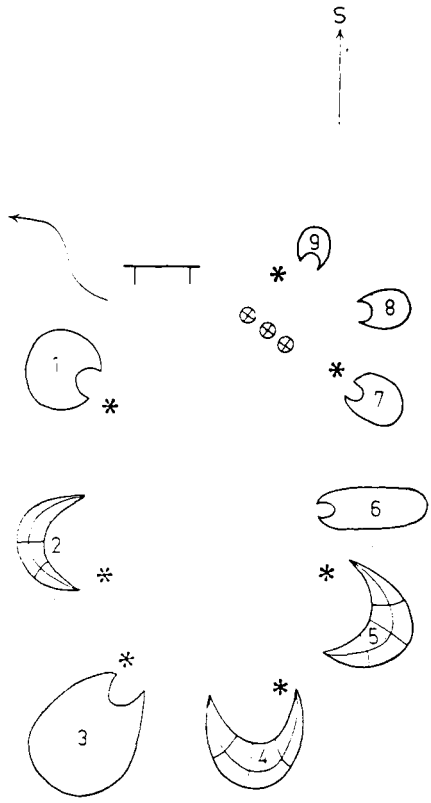
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



Camp Nr. 1 (7, later 8 huts, 2 wind shelters - fig. 4)
Hut 1: Tschalo with his wife Badima and son Dibudscha (2 years old)
Hut 2: Dabusa (7 to 8 years old) and Makombe (5 to 6 years old), both daughters of the pair living in hut 4
Hut 3: Isaka (9 to 10 years old), also a daughter of the pair in hut 4
Hut 4: Timbo with his wife Ebunga
Hut 5: Tschamba, a young woman living alone
Hut 6: Mombuka (10 to 11 years old), daughter of the pair living in hut 7
Hut 7: Musanki (Elder) with his wife Malaki
Hut 8: Mokobiutscho with his wife Bonga and son Abuka (2 to 3 years old), arrived at the camp on 27 December 1975
Wind shelter 1: youth Mongatschu
Wind shelter 2: youth Bole

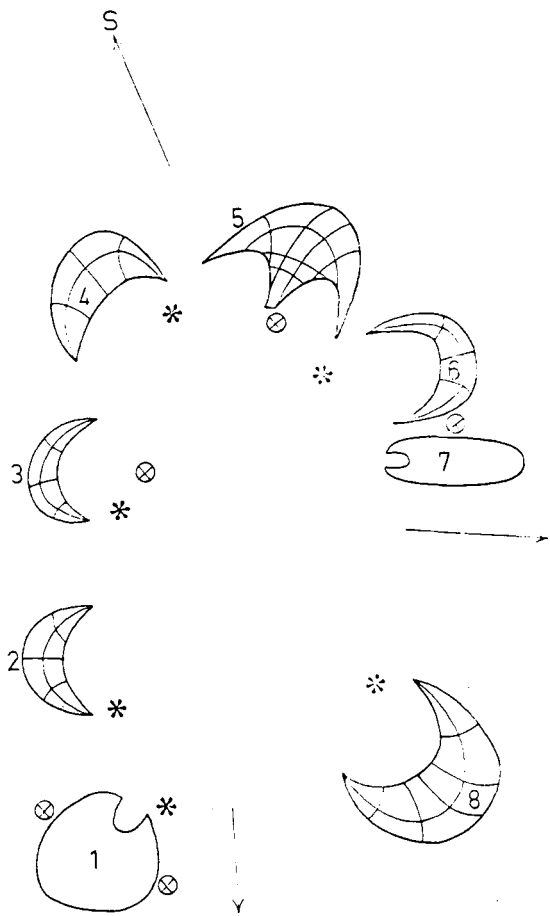
Fig. 4 - 7 Camp site overviews. Location of huts and wind-shelters. Asterisks represent fire-places.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



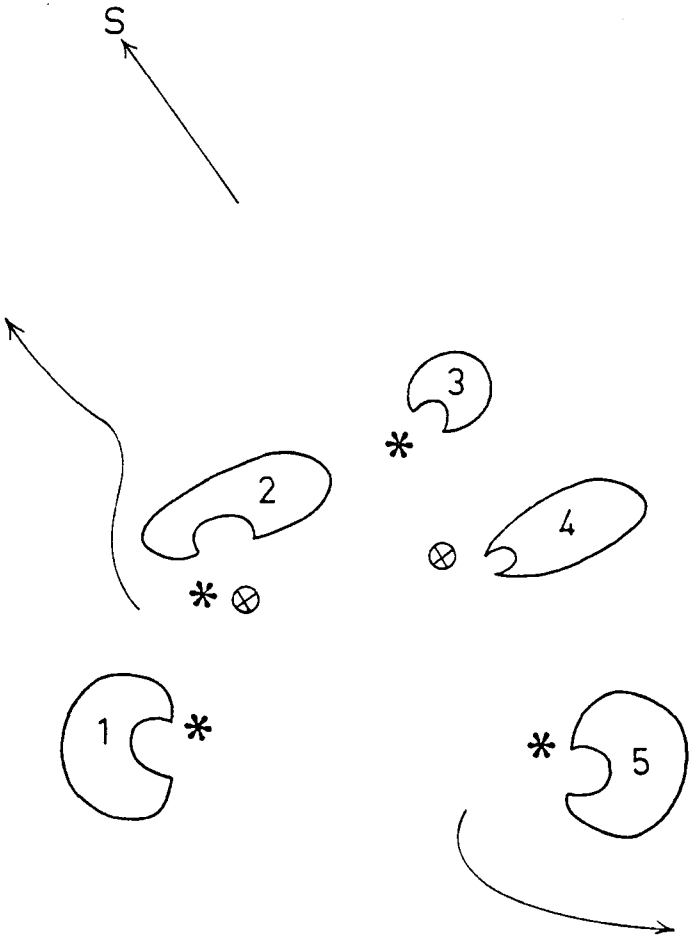
Camp Nr. 2 (9 huts, 1 wind shelter - fig. 5)
Hut 1: Mukanga with his wife Dobi as well as their sons Tschata (3 years old) and Gingako (1 1/2 years old)
Hut 2: Tschumbi and his wife Tsale as well as daughter Tschuka (3 to 4 years old) and infant Bengebé (♂ 6 months old)
Hut 3: son Mukanga (12 years old), daughter Kata (8 years old) and son Bama (6 years old), children of the pair living in hut 2
Hut 4: Dibue with his wife Guma as well as their two sons Mokandschu (6 years old) and Babanda (6 months old)
Hut 5: Muzanga with his wife Beza and daughter Lukundi (4 years old)
Hut 6: Molebo (10 years old) and Mangulu (5 years old), daughters of the pair living in hut 2
Hut 7: Genza and his wife Koiti
Hut 8: Bumbe (Elder) with his wife Leoie as well as daughter Kosi (3 years old)
Hut 9: Ambije (the very old mother from Bumbe)
Wind shelter: youths Nako and Gindschako

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



Camp Nr. 3 (8 huts – fig. 6)
Hut 1: Gala with his wife Nande
Hut 2: Mobole with his wife Bimbo as well as their son Babanda (3 years old)
Hut 3: Digale with his wife Mobilate as well as their sons Nokeso (3 years old), Gembe (2 years old) and Mobele (1 year old)
Hut 4: uncompleted and empty
Hut 5: Koabi with his wife Gandu as well as their son Mokaja (5 years old) and their daughter Namo (3 years old)
Hut 6: the very old woman Mokanda (cf. fig.)
Hut 7: Iba with his wife Mokobala
Hut 8: Mobele with his wife Mutschengu and their son Mongoi (3 years old)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



Camp Nr. 4 (5 huts - fig. 7)
Hut 1: Lumbo with his wife Kenia
Hut 2: Balumba with his wife Kumbe and their son Gobe (5 years old)
Hut 3: Mokantschu, without woman
Hut 4: Mokanja with his wife Bukaja
Hut 5: Balumba with his wife Bangala as well as son Taola (12 years old), daughter Bambela (7 years old) and son Wojo (4 years old)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

panzee *Pan troglodytes*. He too lives in loose, fluctuating groups or bands, feeds mainly upon fruits and leaves in the search for which most of his activity is concentrated. As we now know, he does not disdain animal nourishment, and every night a new nest is built to sleep in. Admittedly we know of no pair-bonding among the chimpanzees. But both they and the pygmies are *collectors* and *hunters*. Furthermore, the pygmies must complete directly for food, on an ethological basis, with other fruit-eating mammals (e.g. the duiker *Cephalophinae*).

Symbiotic relationships and degree of acculturation

We can only guess on conditions in equatorial Africa at the time of ancient Egypt, as the pygmies caught by the Egyptians were very probably from marginal groups. However, present-day demographic knowledge makes it very unlikely that there were any Bantu then in the hylae, the pygmies' lebensraum, and the wholesale migrations of the Sudanese are of more recent date. The problem of the Bantu expansion, in particular, has been treated by Oliver (1966) and Köhler (1975). Since Schweinfurth's rediscovery of the pygmies, some 100 years ago, we know that they have entered into symbiotic relationships involving different degrees of dependency with the invading Bantu and Sudanese peoples.

The Bayaka of the Sangha and Lobaye rivers have maintained some measure of independence, above all in the area south of the Lobaye. Although the Ba-Gandu and I-Songo call themselves the pygmies' masters, the pygmies are in reality absolutely free in their decisions and actions. Only in the dry season from November to January are they to be found in the vicinity of the Bantu villages. In this time they occasionally hunt for (and with) the Bantu, to be able to barter meat for salt, iron hatchets and spear points. At such times the pygmy menu also includes manioc, *Manihot esculenta*; its leaves as a vegetable, root tubers and occasionally bananas stolen at night from the plantations. Nevertheless the staple food continues to be the natural yield of the rain forest.

The Bayaka clothing is minimal; very rarely one sees a pullover, practically in rags, and even that is more likely to be in some corner, rather than on a wearer. Men tie a thin liana round the hips to hold a strip of stuff pulled between the legs to cover the genitals, and with the ends hanging in front

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and behind (Fig. 18). Women often wear a plaited liana round the hips, fastened to which is a tiny strip of material only just covering the pudendum. Many girls and women often pick a bundle of fresh green leaves which they fasten to the back of the liana string like a bustle (Fig. 12), so that it bobs gaily with every step. They occasionally wear a band round the forehead, and after the first child has been weaned, a liana string round the body at breast-height (Fig. 15). European iron pots and tin bowls are often used for cooking (Fig. 19), apparently obtained when they are discarded by the Bantu.

Barter (*troc*) between the pygmies and their taller neighbours is at least as old as the rediscovery of the pygmies. In earlier times, barter was not a man-to-man transaction, there were certain fixed spots in the forest where the pygmies laid out their wares; they then disappeared into the forest, to return next day for the bartered goods left by the negroes. Legend has it that a pygmy armed with poisoned arrows always remained in hiding nearby, for the pygmies did not trust the negroes; these however, knowing the trick, were careful not to cheat. Even nowadays the negroes have an awesome fear of the pygmies, in spite of the fact that they are disinclined to accept them as "genuine" people, and all too often refer to them as 'la viande qui parle' – 'viande' used here in the sense of game, or wild animals.

On the Lobaye between Kinga and Ibata there is an I-Songo village called *Kelemanbe*; this is a distortion of the Bayaka *gala mambe – gala* meaning barter and *mambe* (*cercopithecus pogonias*) the long-tailed monkey frequent and often hunted on the Lobaye. Obviously the I-Songo village has grown from the former barter site.

The term *host peoples* is generally used in the anthropological literature (c.f. Schebesta etc.) to describe the neighbouring Bantu and Sudanese. The actual circumstances do not however correspond with the etymology of this expression; the pygmies were indeed the original inhabitants of the African rain forests, and it does not seem appropriate to describe the secondarily immigrated Bantu and Sudanese as *hosts*. The expression *'contact peoples'* would come closer to the reality, as has already been suggested elsewhere (Heymer 1974).

The problem of language belongs in the complex of symbiotic relationships and phenomena attributable to acculturation

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ation; it has long been neglected, and I should like to refer to it briefly. The widely held opinion that the pygmies have no language of their own stems from the fact that each pygmy band has learnt the languages, or one language, of their taller contact people, and thus communicate with them. I was able however to determine (as far back as 1972 in the Baka of Gaboon) that among themselves the pygmies speak a language incomprehensible to the negroes (1). I was working at that time in a boundary region between the immigrant Sudanese, the Fang, and the Ba-Kota, who rate as Bantu proper. Baka pygmies live in both areas, and speak either Fang or Kota, but are able to communicate with each other in a tongue of their own. All the animal names I could elicit, and names of implements in daily use, are the same in both groups. Furthermore it is regarded nowadays as incontroversial that the pygmies were the primary inhabitants of the equatorial hylae of Africa, whereas those of taller growth, whether Bantu or Sudanese, are secondary inhabitants, in part indeed belonging to recent waves of immigration, having then settled in the areas of pygmy distribution and become planters and hoe cultivators. The pygmies must therefore certainly have spoken a language of their own originally (2). Years ago, Gusinde (1948), who was in Ituri between 1934/35, reported that the pygmies there fall back upon their own original expressions when they suspected unwanted listeners, and that they did not reveal their language to neighbours outside the tribe. Obviously a sensible form of mutual communication has evolved: in communicating with negroes the pygmies use the habitual language of that place, which however according to my own observations is known to very few of the pygmies of a band, mainly men. But among themselves the pygmies speak their own tongue. It seems to me that these circumstances have hitherto been accorded too little attention. Born (1975) merely gives us an older summary and Vorbichler (1974 and *in litt.*) has only analysed a few conver-

(1) In connection with the problem of language, it is interesting that both Baka and Bayaka can only count up to 5. Baka: *Bode, Bide, Bata, Bana, Fué* – Bayaka: *Moiti, Babei, Basatu, Bana, Batan*. SCHEBESTA first reported this of the Ituri pygmies.

(2) Dr. Jacqueline M.C. THOMAS, D.R., C.N.R.S., Laboratoire des Langues et Civilisations à Tradition Orale, Paris, is at present engaged in group work with the object of compiling a Bayaka-French dictionary.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sations between Balese hoe cultivators and Efe pygmies.

In my opinion, much work remains to be done in the field of pygmy linguistics. It is a pity that this phenomenon has been neglected by philologists, who have missed the real problem in that they allowed themselves to be misled by the symbiotic relationships of the pygmies to planters and hoe cultivators.

Summary

Within the scope of cross-cultural research work on human behaviour, the ethology of the Bayaka Pygmies of Central Africa has been studied on a trip from November 1975 to January 1976. The present introduction gives a short overview of the anthropological and ethnological research work an Pygmies since the rediscovery of this people by Schweinfurth in the year 1870, as well as of the geographical distribution of the Pygmies in Africa. The phenotype of the Baka and Bayaka, the so-called Western Pygmies, is compared with known data an Ituri Pygmies (Aka, Sua, Efe).

The social structure of the Bayaka is described in detail. The band lives within a territory with fixed borders and roams through it according to the food supply which is determined by ecological conditions. The Bayaka still live exclusively as hunters and gatherers. As they do not make food stocks, they are in permanent food competition with other frugivorous mammals. They entertain with their tall black neighbours symbiotic relations in the form of goods exchange. The common hunting activities of all band members can be considered as a primary group-bonding mechanism, especially since the band splits up into small groups at the camp site. There is no hereditary chieftain, but each group has a respectable person or Alpha-Pygmy (*primus inter pares*). The Bayaka are in principle monogamous and exogamous and have a virilocal life system. Grooming is one of the main activities among social interactions (cf. HF 83 and HF 84). According to the criteria used in human ethology, the Bayaka Pygmies can be considered as a society of *intense leisure.*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

REFERENCES

Bahuchet, S.
1972 Étude écologique d'un campement de Pygmées Babinga; Région de la Lobaye, Afrique Centrale. Journ. Agric. Trop. Bot. Appl. 19, 509-559

Ballif, N.
1976 Observations effectuées chez les Pygmées Babinga; — Mission Oguoué-Congo 1946. Mém. de Diplôme de l'E.H.E.S.S. Paris, 145 pp.

Blake, N.M. and OMOTO, K.
1975 Phosphoglucomutase types in the Asian-Pacific area. A critical review including new phaenotypes. Ann. Hum. Gen. 38, 251-273

Born, K.
1975 Nordkongo und Gabun, der Western. In: Baumann, H., Die Völker Afrikas und ihre traditionellen Kulturen. Teil 1, 685-721. Franz Steiner Verlag Wiesbaden

Cavalli-Sforza, L.L.
1969 Human Diversity. In: Proceedings XII. Internat. Congress of Genetics, Tokyo, Japan 1968, Vol. 3, 405-416
1971 Pygmies, an Example of Hunter-Gatherers, and Genetic Consequences for Man of Domestications of Plants and Animals. Human Genetics, Proc. Fourth Int. Congr. ISC 250, Excerpte Medica, 79-95

Eibl-Eibesfeldt, I.
1971 Das Humanethologische Filmarchiv der Max-Planck-Gesellschaft. Homo 22, 252-256
1972 Die Iko-Buschmann-Gesellschaft — Gruppenbindung und Aggressionskontrolle bei einem Jäger — und Sammlervolk. R. Piper Verlag München, 226 pp.

Eibl-Eibesfeldt, I. and Hass, H.
1966 Zum Projekt einer ethologisch orientierten Untersuchung menschlichen Verhaltens. Mitt. Max-Planck-Ges. 6, 383-39

Gusinde, M.
1948 Urwaldmenschen am Ituri. — Anthropo-biologische Forschungsergebnisse bei Pygmäen und Negern im östlichen Belgisch-Congo aus den Jahren 1934/35. Springer Verlag Wien, 420 pp.

Hallet, J. P.
1973 Pygmy Kitabu. Random House, N.Y., 434 pp.

Harrer, H.
1977 Die letzten Fünfhundert — Expedition zu den Zwergvölkern auf den Andamanen. Verlag Ullstein Berlin, 175 pp.

Heymer, A.
1974 Das Jäger - und Sammlervolk der Pygmäen. — Versuche zur Erforschung unseres angeborenen Konnens. Roche Image 12, 17-26

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

1979 Die Zwerge aus dem Regenwald. Kosmos 75, 495-503
Schnelles Brauenheben als "Ja" zum sozialen Kontakt bei einem Kleinkind. Umschau 79, 454-455
Introduction to Human Ethological Films on Bayaka Pygmies from Central Africa. Homo, in press
Bayaka Pygmies (Central Africa) — Social Grooming (Delousing) in Women and Girls and Grooming Rivalry. Begleitveroffentlichung zu HF 83. Homo, in press
Byaka Pygmies (Central Africa) — Hetero-Sexual Social Grooming (Delousing) between Adolescent Girls and Boys. Begleitveröffentlichung zy HF 84. Homo, in press
1980 Byaka Pygmies (Central Africa) — Friendly Contact with Unknown Persons and Fear of Strangers in Small Children. Begleitveröffentlichung zu HF 85. Homo, in press
Bayaka Pygmies (Central Africa) — Giving, Taking, Sharing and Rank Order Demonstration in Relation with these Behaviour Patterns. Begleitveröffentlichung zu HF 86. Homo, in press
Bayaka Mygmies (Central Africa) — Mother-Child-Relationship and Behaviour Patterns between Small Children and Different Other Female Adult Persons. Begleitveröffentlichung zu HF 87. Homo, in press
Vie sociale et mécanisme comportementaux en relation avec la stratégie d'adaptation écologique chez les Pygmées Bayaka, cueilleurs et chasseurs de la grande forêt d'Afrique équatoriale. Objets et Mondes, in preparation
1981 Bonding Talk between Two Young Boys and its Significance for Group Bonding in Bayaka Pygmies. In preparation

Kidd, D.
1906 Savage Childhood. A Study of Kafir Children. Adam and Charles Black, London

Kirk, R. L.
1973 The Distribution of Red Cell Enzyme and Serum Protein Groups in a Population of Davi (Pit River, West Irian). Human Genetic 17, 345-350

Letouzey, R.
1966 Recherches sur la nomenclature botanique des Pygmées. Journ. Agric. Trop. Bot. Appl. 13, 479-543
1975 Noms d'arbres des Pygmées Bagielli dans le sudouest du Cameroun. Journ. Agric. Trop. Bot. Appl. 22, 23-45

Marquer, P.
1972 Nouvelle contribution à l'étude du squelette des Pygmées Occidentaux du centre africain comparé à celui des Pygmées Orientaux. Mém. Mus. Nat. Hist. Nat. Paris 72, Série A, 122 pp.

Panckow, H.
1892 Z.G.F.E. 27: cited from SCHEBESTA, P. (1938). — Not seen original article.

Pinerd, G. et al.
1977 Étude d'un Écosystème de la forêt tropicale à partir des

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

données humaines. Nature et Ressources 13, 8-14

Schebesta, P.
1938 Die Bambuti-Pygmäen vom Ituri. — Geschichte, Geographie, Umwelt, Demographie und Anthropologie. Mém. Inst. Royale Coloniale Belge, Bruxelles, Tome 1, 438 pp.
1941 Die Bambuti-Pygmäen vom Ituri — Die Wirtschaft. Mém. Inst. Royale Coloniale Belge, Bruxelles, Tome 2, Fasc. 1, 284 pp.
1950 Die Bambuti-Pygmäen vom Ituri. — Die Religion. Mém. Inst. Royale Coloniale Belge, Bruxelles, Tome 4, Fasc. 1, 253 pp.

Schlichter, H.
1892 The Pygmy Tribes of Africa. Scott. Geogr. Mag., Edinburgh (with many references)

Schumacher, P.
1949 Die physische und soziale Umwelt der Kivu-Pygmäen. Mém. Inst. Royale Coloniale Belge, Bruxelles, Tome 3, 509 pp.

Schweinfurth, G.
1874 The Heart of Africa, New York

Schwidetzky, I.
1971 Das Menschenbild der Biologie. Gustav Fischer Verlag Stuttgart, 2. Aufl., 226 pp.

Steinfurth, H.
1973 Meine Freunde die Pygmäen. Bild-Bericht in 8 Folgen. Bunte, Offenburg

Thorbecke, F.
1913 Eine neue Zwergrasse. Deutsch. Kol. Zeit. 11
1914-19 Im Hochland von Mittelkamerun — Das Gebiet der Zwerge. Hamburg

Turnbull, C. M.
1961 The Forest People — A Study of the Pygmies of the Congo. A Clarion Book, Simon and Schuster, New York, 295 pp.
1965 The Mbuti Pygmies: An Ethnographic Survey. Anthropological Papers of the Americ. Mus. Nat. Hist. New York, Vol. 50, Part 3, 282 pp.

Trilles, R. P.
1932 Les Pygmées de la forêt équatoriale. Blond et Goy Paris, 530 pp.

Vallois, H. V. and Marquer, P.
1976 Les Pygmées Baka du Cameroun: Anthropologie et Ethnographie avec un Annexe démographique. Mém. Mus. Nat. Hist. Nat., Série A, Zoologie, Tome C, 195 pp.

Vergnes, H.
1978 Polymorphisme des systemes enzymatiques érythrocytaires et sériques chez les Pygmées (Bay)Aka (Centrafrique) In: Jaeger, G. et al. (Editeurs): Fonctionnement naturel d'un écosysteme pluviisylve à partir des données humaines. DGRST, Note No 18, Journ. d'Etudes du 27 Oct, 1978, 234 pp.

Vergnes H. et al.
1979 Population Genetic Studies of the Aka Pygmies (Central Africa). Human Genetics 48, 343-355

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Vorbichler, A.
1974 Das interdialektale Sprachverhalten zwischen sesshaften Balese-Hackbauern und nomadisierenden Efe-Pygmäen (Ituri-Region, Ost-Zaire). Anthropos 69, 1-16.

* * * * *

* I wish to thank the Deutsche Forschungsgemeinschaft for the subsidies to travelling expenses granted and the Centre National de la Recherche Scientifique for having permitted this research trip. I am obliged to the Central African Government for working permission and to the Ambassador of German Federal Republic at Bangui for his assistance. I am especially grateful to Prof. Dr. I. Eibl-Eibesfeldt for a working place at his Institute and for his hospitality. I also express my kindest thanks to his collaborators and my friends Anna Guggenberger, Renate Krell, Dieter Heunemann and Wulf Schiefenhovel for their permanent aid and support in the treatment and exploitation of my Human Ethological Research Films and for constructive criticism of my ethological manuscripts. I would not forget all my friends in Central Africa which I cannot enumerate personally, but without their efficient aid the difficult field studies in the Equatorial African rain forest would have been impossible to conduct.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE RELATIONSHIP BETWEEN ABO BLOOD TYPE AND FACTOR OF PERSONALITY AMONG SOUTH MISSISSIPPI 'ANGLO-SAXON' SCHOOL CHILDREN

DONALD A. SWAN
GARNETT HAWKINS
BETTY DOUGLAS

Introduction

Race and population differences in the distribution of the blood types of the ABO and other blood group systems have been observed for more than half a century. Due to the medical importance of blood group information, more data are available on racial differences in blood group distributions than for any other trait system. In recent years detailed compilations of the frequencies of the different blood group genes among the races and peoples of the world have been provided by a number of research workers. These data have been employed to investigate a wide variety of anthropological and biological problems – from the estimation of population affinities to the attempted reconstruction of racial histories.

Anthropologists and population geneticists have also attempted to determine the causes of these observed racial differences in blood group distributions. Some workers in this field have suggested that blood groups may be related to differential susceptibility or resistance to disease. This had led to studies of the statistical association between ABO blood type, for example, and incidence of a number of diseases, such as duodenal ulcers and stomach cancer.

Other scientists have investigated the possible relation between blood type and behavioral traits. Studies have been made of the statistical association between ABO blood type and mental illness, intelligence test performance, and personality factor. The noted psychologist, Raymond B. Cattell, recommended investigation of the association between behavioral traits and hereditarily determined physical features, such as the human blood groups, as a useful approach "in the study of psychological genetics." In 1964 Dr. Cattell published his own study of the relation between ABO blood type and 14 personality factors in a sample of Italian and Italo-American subjects. (1)

The Mankind Quarterly, Vol. XX, Nos. 3 & 4 (Spring/Summer 1980)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

In the autumn of 1975 the senior author undertook an anthropological and psychological study of American school children of predominantly 'Anglo-Saxon' origin. Anthropometric data (head and body measurements), pigmentation measures, dermatoglyphic data, serological data, and measures of intelligence and personality were obtained from more than 1,000 students at three private academies in the South Mississippi area of the United States. The purpose of the study was to assess the anthropological and psychological structure of an American 'Anglo-Saxon' population, to compare this population with parent populations in the British Isles, and to investigate the interrelation between physical and behavioral traits.

For more than 500 of the students in the sample studied both ABO blood type and scores on the Cattell personality test were available. This permitted a statistical analysis of the relation between ABO blood type and personality factor. It is the purpose of this paper to report the results of this research and to compare the findings with those obtained by Dr. Cattell in his earlier study.

Background

The ABO blood group system was discovered by Karl Landsteiner in 1901. Dr. Landsteiner observed that the mixture of blood from different individuals frequently resulted in biochemical reactions termed "agglutinations." On the basis of his studies Landsteiner found that "human beings could be divided into four classes according to the agglutination reactions which their red cells showed with normal human sera."(2) Later the four classes of reactions were termed blood types O, A, B, and AB.

During the First World War (1914-1918) it was noted that soldiers of different nationalities differed in the frequencies of

(1) Raymond B. Cattell, H. Boutourline Young, and J. D. Hundleby
1964 "Blood Groups and Personality Traits," *American Journal of Human Genetics*, Vol. 16, No. 4, pp. 397-402.

(2) A. E. Mourant
1954 *The Distribution of the Human Blood Groups*, C. C. Thomas, Springfield, Illinois, pg. 6.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the four ABO blood types. This discovery initiated the new science of sero-anthropology. Millions of individuals representing virtually all the races and peoples of the world were typed for the ABO and other blood group systems during the next sixty years.

Blood groups are completely determined by heredity and have a known mode of inheritance. The genetics of the ABO-system were correctly worked out by Bernstein in 1924. He found that the four blood types were determined by three allelic genes: p-gene for blood type A, q-gene for blood type B, and r-gene for blood type O. The ABO blood group system exhibits both dominance and blending. Blood types A and B are dominant to blood type O, while A and B are of equal dominance. Hence, there are six possible genotypes (AA, AO, BB, BO, OO, and AB) and four possible phenotypes (A, B, O, and AB) in the ABO-system.(3)

Formulas have been worked out for calculating the actual gene frequencies from the blood type phenotypes for the ABO and other blood group systems. Mourant (1954), for example, gives the following formulas for calculating the p-, q-, and r-gene frequencies in the ABO-systems:(4)

$$p = \sqrt{A + O} - \sqrt{O}$$
$$q = \sqrt{B + O} - \sqrt{O}$$
$$r = \sqrt{O}$$

On the basis of these formulas the actual blood group gene frequencies in different populations can be calculated. By employing data from the ABO and other blood group systems, anthropologists can measure the genetic differences between races and peoples, construct taxonomies of the races of man, and estimate rates of evolutionary change.

Race and Blood Groups

Tabulations and reviews of the relation between race and blood group distributions have been provided by Race and

(3) W. C. Boyd
1952 *Genetics and the Races of Man*, Little, Brown pp. 216-217.

(4) A. E. Mourant
1954 *op. cit.*, pp. 214-216.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Sanger (1950) (5), Boyd (1952) (6), Mourant (1954) (7), Saller (1962) (8), Schwidetzky (1962) (9), and Mourant (1976) (10). Dr. Hubert Walter has provided a comprehensive survey of the association between serological traits and race in Professor Ilse Schwidetzky's work *Die neue Rassenkunde* (1962). Walter has mapped the global distribution of the serological gene frequencies, compiled tables of the serological studies of different populations, and summarized the serological differences between seven major racial groups for each of ten known blood group systems.

For the ABO-system, Dr. Walter concluded that on the basis of the tabular and graphic compilations "distinct differences exist between the races in the frequency of the different blood group genes."(11) These racial differences are illustrated in Figure 1 and outlined in Table 1.

As can be seen from the tables and charts, the frequency of the p-gene for blood type A is higher among both European and non-European Whites, Eskimos, and Australian aborigines. On the other hand, the p-gene frequency is low among American Indians and African Negroids. The q-gene for blood type B attains its highest frequency among the Mongoloid peoples of East Asia and its lowest frequency among the American Indians and Eskimos. The r-gene for blood type O reaches its highest frequency among the American Indians, with high values also found among Eskimos and African Negroes.(12)

(5) R. R. Race and Ruth Sanger
1950 *Blood Groups in Man*, C. C. Thomas, Springfield, Illinois.
(6) W. C. Boyd, *op. cit.*
(7) A. E. Mourant
1954 *op. cit.*
(8) Rudolf Martin and Karl Saller
1962 *Lehrbuch der Anthropologie*, Gustav Fischer, Stuttgart, Germany, Vol. III, pp. 1575-1750.
(9) Ilse Schwidetzky (Editor)
1962 *Die neue Rassenkunde*, Gustav Fischer, Stuttgart, Germany, pp. 135-232.
(10) A. E. Mourant
1976 *The Distribution of the Human Blood Groups and other Polymorphisms*, Oxford University Press, London, England.
(11) Hubert Walter
in Ilse Schwidetzky, *op. cit.*, pg. 152.
(12) *Ibid.*, pp. 140-154.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

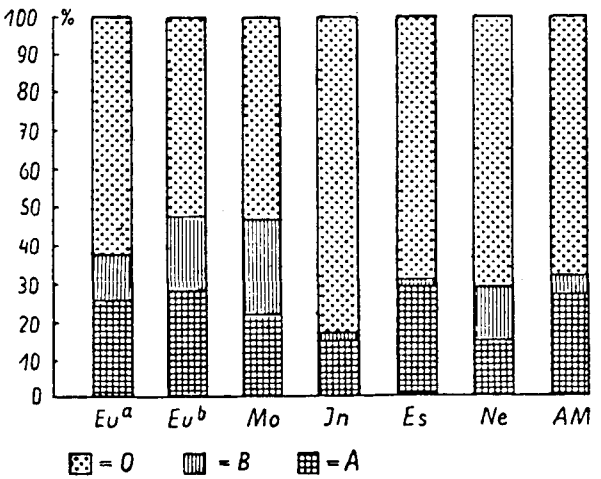


FIGURE 1 — Percentage distribution of the ABO blood type genes in the primary races of man (Walter, 1962).

Eu^a = European Whites
Eu^b = Non-European Whites
Mo = East Asian Mongolids
In = American Indians
Es = Eskimoes
Ne = African Negrids
AM = Australian Aborigines and Melanesians

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 1
(Walter, 1962)
Relative frequency of the ABO blood type genes
among the primary races of man

Racial group	Relative frequency of p-gene for blood type A	Relative frequency of q-gene for blood type B	Relative frequency of r-gene for blood type O
European Whites	High	Moderate	Moderate
Non-European Whites	High	High	Low
East Asian Mongolids	Moderate	High	Low
American Indians	Low	Low	High
Eskimos	High	Low	High
African Negrids	Low	Moderate	High
Australian and Melanesians	High	Low	High

TABLE 2
(Walter, 1962)
Comparative distribution of the ABO gene frequencies
among the primary races of man

ABO blood type gene	European Whites	Non-European Whites	East Asian Mongolids	American Indians	Eskimos	African Negroes	Australians and Melanesians
p-gene (A)	26	28	22	15	29	15	27
q-gene (B)	12	20	25	2	2	14	5
r-gene (O)	100	100	100	100	100	100	100

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Dr. Walter also provided quantitative estimates of the distribution of the ABO gene frequencies in each of seven primary racial groups. These data are presented in Table 2. For the Caucasoid populations of Europe, the distribution was calculated at: p = .26, q = .12, and r = .62. This would correspond to a phenotic distribution of approximately 40 percent type O, 40 percent type A, 16 percent type B, and 4 percent type AB.(13)

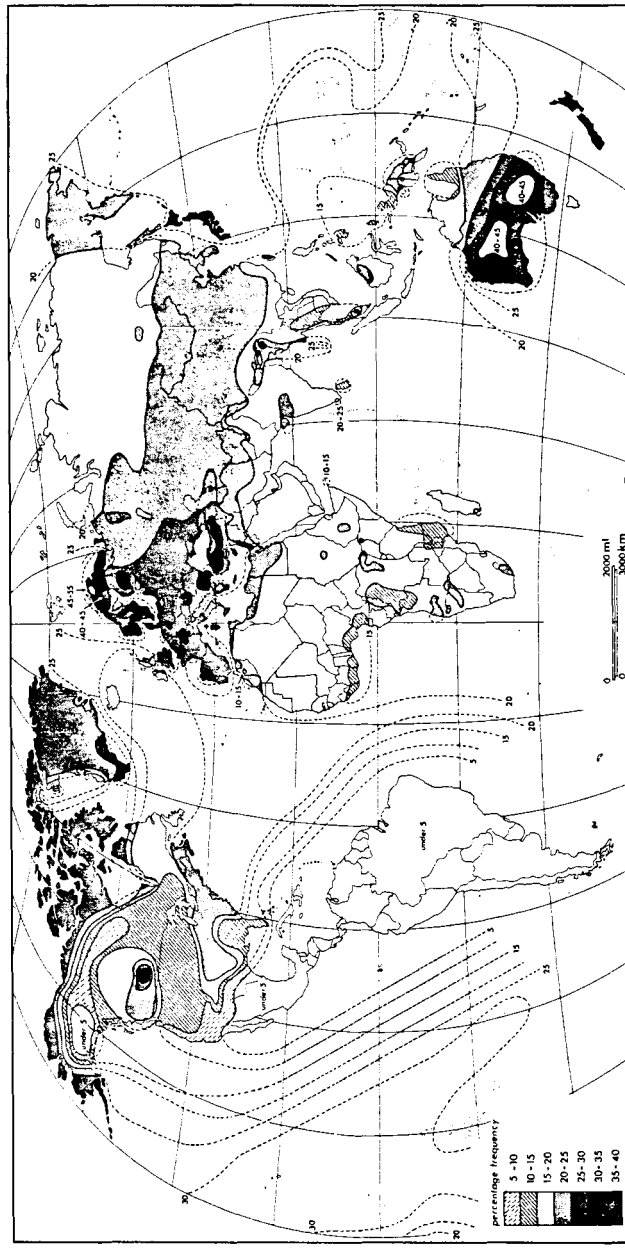
In 1976 Oxford University Press published Dr. A. E. Mourant's monumental work on *The Distribution of the Human Blood Groups and Other Polymorphisms*. This volume of more than 1,000 pages (including 660 pages of tables) is the most comprehensive review of blood group distributions yet published. In the first thirteen chapters Mourant provides an outline of the serology and genetics of the ABO and other blood group systems (MNSs, P, Rhesus, Lutheran, Kell, Lewis, Duffy, Kidd, Diego, et. al.), as well as a survey of the proteins of the blood, the plasma proteins, the red-cell enzymes, the hemoglobins, and other biochemical polymorphisms.(14)

The following ten chapters contain reviews of the blood group traits and other biochemical features of populations in different geographical regions of the world — starting with northern and central Europe and ending with the indigenous peoples of America. Dr. Mourant has compiled numerous maps delineating the geographical distribution of the blood type genes in the various blood group systems. The geographical distributions of the estimated frequencies of the p-, q-, and r-genes in the ABO-system are illustrated in Maps 1, 2, and 3. (15)

These blood group data are employed by Dr. Mourant to analyze the affinities between populations and to investigate the origins of various populations throughout the world. In a final chapter the author discusses the biological functions of blood group systems and speculated on the mechanisms that may have brought about and subsequently maintained racial and population differences in the distributions of these traits.

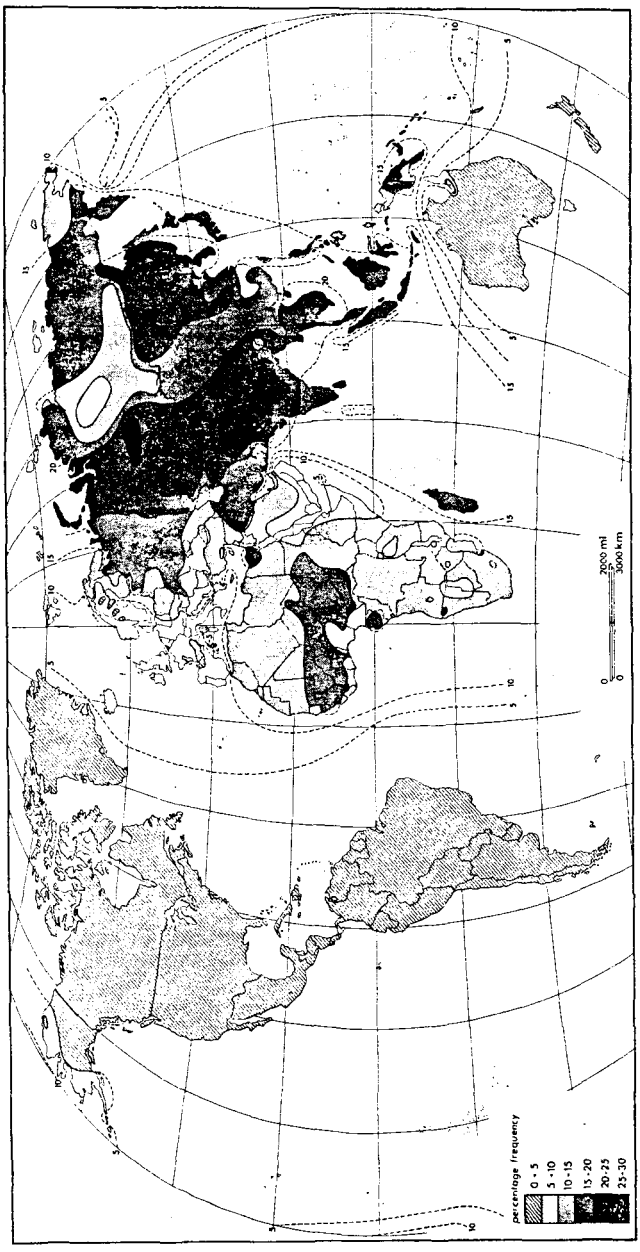
(13) *Ibid.*, pg. 231.
(14) A. E. Mourant
1976 *op. cit.*, pp. 1-61.
(15) *Ibid.*, pp. 62-122.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



MAP 1 — Geographical distribution of the frequency of the p-gene for blood type A (Mourant, 1976).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



MAP 2. — Geographical distribution of the frequency of the q-gene for blood type *B* (Mourant, 1976).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

MAP 3 – Geographical distribution of the frequency of the r-gene for blood type O (Mourant, 1976).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The ABO Blood groups in Europe and the British Isles

In addition to the blood group distribution differences *between* the primary races of man, serological differences have also been found between populations *within* these races. This is particularly evident in the case of Europe, where serological studies have been conducted on virtually all of the populations of the continent. Mourant (1976) notes that "for several of the countries of western Europe there exist published ABO data for 1 percent or more of the population, classified in great detail by place of birth or residence."(16)

The p-gene for blood type A in the ABO-system attains its highest frequencies in Scandinavia and Finland, as well as in several central and south European regions. Serological studies of population samples from Norway, Denmark, Sweden, Holland, Belgium, France, Germany, Switzerland, Austria, Spain, and Portugal generally find 40 percent or more of the subjects to be of blood type A. Lower p-gene values are found in the most distant parts of northwestern and eastern Europe, together with southern Italy and the Mediterranean islands (especially Sardinia). The European minimum is found in western Ireland, with a gene frequency of less than .15. (17)

Dr. Lundman (1967) noted that low p-values for blood type A are found in several refuge areas of Europe -- "among the Basques, in the marsh and moor regions of the Netherlands, in the Po delta region of northeastern Italy, and in some forest regions of central Sweden." He concludes that large parts of western Europe may have had lower p-gene frequencies in prehistoric times. The higher p-gene frequencies could possibly have been diffused in later times by migrations of Indo-European peoples. (18)

The r-gene for blood type O attains its highest European frequencies in the westernmost part of the continent – especially in western Ireland. High frequencies are also found among

(16) *Ibid*, pg. 125.

(17) Bertil Lundman
1977 *The Races and Peoples of Europe*, I.A.A.E.E. Monograph No. 4, 1977, pp. 66-71.

(18) Bertil Lundman
1967 *Geographische Anthropologie*, Gustav Fischer, Stuttgart, Germany, pp. 100-102.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the Icelanders, Scots, Basques, and Sardinians. The r-gene frequencies decline in eastern Europe. Serological studies of population samples from Poland, Czechoslovakia, Hungary, and Russia indicate that only 30 percent to 36 percent of these peoples are of blood type O.

The q-gene frequencies for blood type B increase to the east of the Finnish-Scandinavian and German-Slavic linguistic boundaries. Thus, studies of population samples from Finland, the Baltic States, Poland, Czechoslovakia, Hungary, Rumania, and Russia show percentages of blood type B ranging from 17 percent to 25 percent. (19)

In his survey of blood group data from throughout the world, Mourant (1954) found that in Great Britain and Northern Ireland the frequencies of the p-gene for blood type A and the r-gene for blood type O were somewhat higher than the total world averages, while the frequency of the q-gene for blood type B was markedly lower. These data are presented in Table 3. (20)

Dr. Mourant also reported significant differences in the ABO blood group distributions within the British Isles. In part, these serological differences separate the "Germanic" English from the "Celtic" Welsh, Scots, and Irish. Thus, in England the frequency of blood type A is higher and that of blood type O lower than in most of Wales, Scotland, and Ireland. In fact, the ABO blood group distributions in many areas of England, especially in the south and the east, are closer to the blood group distributions of adjacent areas of Germanic Europe than to the Celtic regions of the British Isles — i.e., Wales, Scotland, and Ireland. (21)

In 1970 Oxford University Press published Dr. Ada C. Kopec's survey of *The Distribution of the Blood Groups in the United Kingdom*. This study presents ABO and Rhesus blood group data from 477,806 subjects in England, Scotland, and Wales and 66,205 subjects in Northern Ireland. The subjects were consecutive new donors who were blood-typed at the

(19) Bertil Lundman
The Races and Peoples of Europe, op. cit., pp. 67-71.
(20) A. E. Mourant
1954 *op. cit.*, pg. 10.
(21) *Ibid.*, pp. 44-49.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 3
(Mourant, 1954)
Comparative distribution of the ABO gene frequencies in the world and in Great Britain and Northern Ireland

ABO blood type gene	Total world	Great Britain and Northern Ireland
p-gene (for blood type A)	21.5	26.0
q-gene (for blood type B)	16.2	6.0
r-gene (for blood type O)	62.3	68.0
Total	100.0	100.0

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Regional Centres of the National Blood Transfusion Service. Approximately one percent of the British population was included in the survey. (22)

Dr. Kopec attempted to establish the existence, and define the geographic limits, of populations each homogeneous with regard to the frequencies of blood types O, A, and B + AB. This was accomplished by grouping together unit areas and sub-regions internally homogeneous for one or more of the ABO blood types. Dr. Kopec found 39 areas in Great Britain and 9 areas in Northern Ireland homogeneous with regard to the frequencies of the O, A, and B + AB phenotypes. The distribution of the ABO phenotypes in the 39 areas of England, Wales, and Scotland is presented in Table 4. The same data for the 9 areas of Northern Ireland are presented in Table 5. (23)

Dr. Kopec's tabulations confirm previous findings of an increase in the frequency of blood type O and a decrease in that of blood type A as one proceeds northwards and westwards in Great Britain. Hence, in Scotland the frequencies of O and B are higher and that of A lower in comparison to the frequencies found in England. (24) More recent studies show that the Highlands of Scotland and the Shetland and Orkney Islands are "characterized by very high O and low A frequencies." Furthermore, in the extreme north-east of Scotland "the donor records show a B frequency uniquely high for Britain." (25)

Natural Selection and Blood Groups

When the blood group systems were first discovered, biologists believed that the distribution of blood type genes was unaffected by environmental selective forces. Hence, blood groups could be considered "nonadaptive traits" that would be stable over time. Furthermore, since blood types were completely determined by heredity, blood groups and other

(22) Ada C. Kopec
1970 *The Distribution of the Blood Groups in the United Kingdom*, Oxford University Press, London, England.
(23) *Ibid.*, pp. 1-10 and pp. 29-31.
(24) *Ibid.*, pg. 92.
(25) A. E. Mourant
1976 *op. cit.*, pg. 65.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 4
(Kopec, 1970)
Distribution of the ABO phenotypes in 39 areas of England, Scotland, and Wales

Geographical region	Number of subjects	Percentage of blood type O	Percentage of blood type A	Percentage of blood type B	Percentage of blood type AB
1. Northeast Scotland	1,092	49.82%	30.77%	15.38%	4.03%
2. Aberdeen and Lowlands of Scotland	53,675	50.76%	35.56%	10.63%	3.04%
3. Northwest Edinburgh	19,937	49.32%	39.84%	8.00%	8.84%
4. Newcastle upon Tyne	13,815	48.71%	39.51%	8.82%	2.96%
5. Durham	8,225	47.42%	39.10%	9.90%	3.59%
6. North Lancashire	2,587	46.39%	40.74%	9.16%	3.71%
7. North Yorkshire	11,758	46.03%	40.93%	9.31%	3.73%
8. West Yorkshire	41,059	47.49%	40.93%	8.57%	3.02%
9. Lancashire	18,533	48.22%	41.71%	7.43%	2.64%
10. Preston	2,061	45.51%	41.58%	10.09%	2.81%
11. Cheshire	6,987	46.87%	40.52%	9.46%	3.15%
12. East Yorkshire	8,455	46.00%	42.52%	8.35%	3.13%
13. North and Central Wales	7,062	48.57%	37.60%	10.44%	3.40%
14. Central England	60,606	46.21%	42.58%	8.06%	3.15%
15. South Central England	44,094	44.79%	44.05%	8.12%	3.04%
16. Monmouth	5,280	44.05%	43.03%	9.07%	3.84%
17. Lincoln	14,560	43.40%	45.31%	8.28%	3.01%
18. Norfolk	9,353	42.91%	46.68%	7.14%	3.27%
19 Norwich	746	39.95%	45.84%	10.99%	3.22%
20 Suffolk	19,076	44.46%	44.84%	7.61%	3.09%
21 Southeast England	33,975	43.84%	44.79%	8.21%	3.16%
22 Glasgow	9,385	53.98%	31.97%	10.91%	3.14%
23 Shipley	1,436	42.48%	45.61%	9.26%	2.65%
24 Todmorden	219	36.07%	52.97%	6.85%	4.11%
25 Halifax	3,913	44.95%	43.11%	9.02%	2.91%
26 Sheffield	2,515	43.10%	45.61%	7.47%	3.82%
27 West Liverpool	6,643	51.41%	37.69%	8.60%	2.30%
28 East Liverpool	5,434	48.97%	37.93%	9.84%	3.26%
29 Warwick	685	38.39%	51.09%	7.30%	3.21%
30 East London	11,409	47.81%	39.77%	9.26%	3.16%
31 West London	1,053	43.11%	39.13%	13.68%	4.08%
32 Middlesex	23,617	46.29%	41.93%	8.70%	3.08%
33 South England	15,700	46.52%	42.36%	7.95%	3.17%
34 South Dorset	3,259	43.88%	45.26%	8.31%	2.55%
35 Devon	2,370	41.69%	45.91%	9.11%	3.29%
36 Plymouth	1,809	46.38%	41.40%	8.73%	3.48%
37 West Cornwall	1,492	43.56%	45.31%	7.71%	3.42%
38 Carmarthen	2,621	46.81%	40.48%	9.50%	3.21%
39 Pembroke	1,310	38.02%	47.40%	11.22%	3.10%
Total	477,806	46.80%	41.38%	8.73%	3.10%

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 5
(Kopec, 1970)
Distribution of the ABO phenotypes in nine areas of Northern Ireland

Geographical region	Number of subjects	Percentage of blood type O	Percentage of blood type A	Percentage of blood type B	Percentage of blood type AB
1. Fermanagh	953	52.87%	37.15%	8.18%	1.89%
2. Londonderry	8,036	56.06%	30.59%	10.39%	2.96%
3. North Antrim	10,660	53.39%	33.62%	10.17%	2.82%
4. South Antrim	8,457	56.35%	32.33%	9.14%	2.18%
5. Belfast	16,412	54.28%	33.19%	9.81%	2.72%
6. Bangor	10.430	54.67%	34.35%	8.78%	2.20%
7. North Down	4,209	53.01%	33.43%	9.95%	3.61%
8. South Down	3,844	57.26%	29.34%	10.93%	2.47%
9. Armagh	3,204	54.06%	35.42%	7.99%	2.53%

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

genetical systems were favored over morphological traits by many investigators as indicators of the affinities between races and populations.

Existing racial differences in the distribution of blood groups and other polymorphisms were attributed to the operation of random forces or genetic drift" in reproductively isolated populations. Since human populations were quite small in prehistoric pre-neolithic cultures, chance factors unrelated to differential fertility or survival could have produced significant racial differences in blood group distributions as well as other anthropological traits.(26) Then, with the enormous expansion of population from the neolithic period onward, these differences would become "fixed" in different races and peoples. Certainly, in a number of well-defined isolates, "founder effects and ongoing "genetic drift" have been demonstrated and studied in detail.(27)

A. E. Mourant, however, believes that "blood groups have a much greater functional significance than we have yet been able to demonstrate, or even to imagine." He bases this belief, in part, upon the fact "that nearly every vertebrate species which has been adequately studied has been found to possess an elaborate set of immunological polymorphisms of this kind." Consequently, from an early stage of blood group research differences have been sought between individuals of different ABO blood types "affecting susceptibility to a variety of diseases." (28)

H. Walter (1962) summarized the data from a number of studies of the statistical association between ABO blood type and nine different diseases. For example, twenty-three studies on 6795 patients with stomach cancer found a 19 percent higher incidence in individuals of blood type A as compared to individuals of blood types O and B. Thirty-five studies on 8416 subjects with duodenal ulcers found a higher incidence ranging from 35 percent to 41 percent in individuals of blood

(26) H. Bentley Glass
1953 "The Genetics of the Dunkers," *Scientific American*, Vol. 189 No. 2, August 1953.
(27) A. E. Mourant
1976 *op. cit.*, pg. 125.
(28) *Ibid.*, pp. 125-126.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

type O as compared to those of blood types A, B, and AB. (29)

Dr. Mourant, however, contends that the diseases which "cause the greatest mortality in early life are the great epidemics." Hence, large changes in blood group gene frequencies could be accounted for if it could be shown that "any of the major epidemic infections had a differential incidence or severity related to the ABO blood groups." Some research workers claim to have found a positive relationship between blood type A and susceptibility to smallpox, "while other workers find no such relationship." Still other investigators have shown that "there is an association between group O and susceptibility to influenza of type A-2." (30)

Mourant speculates that some of the racial and population differences in the distribution of the ABO and other blood groups may have resulted from such selective processes. He notes that "most of the isolated populations in and around Europe, on islands, in the mountains, and in the deserts, have particularly high frequencies of group O." Since selection antenatally and in early infancy appears to favor blood type O, this should "ultimately become the sole surviving group." This may have occurred in isolated geographical regions whose inhabitants are protected "not only against warlike invasion but against epidemics." However, if some common epidemics favor individuals of blood types A and B, then the selective processes favoring type O may be partly balanced by those other processes, "leading to higher equilibrium frequencies of A and B in the more continental areas."(31)

Blood Groups and Behavioral Traits

Scientists have also begun to explore the possible relation between blood type and behavioral traits – in both abnormal and normal populations. Several investigators report statistically significant associations between ABO blood type frequency and a number of mental disorders. These include schizophrenia,(32)

(29) Hubert Walter
in Ilse Schwidetzky, *op cit.*, pp. 157-161.
(30) A. E. Mourant
1976 *op. cit.*, pg. 127.
(31) *Ibid.*, pg. 127.
(32) A. S. Czechowicz and L. Pamnany

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

manic-depressive psychosis, (33) and involutional depression. (34) A higher frequency of blood type A has been found among the schizophrenics and of blood type O among the depressives.

Rinieris, et. al. (1978) investigated the association between ABO blood type and mental disorder among 441 patients hospitalized in Athens, Greece. The patients were classified into five groups: 1) 38 obsessive-compulsive neurotics; 2) 48 schizophrenics with anancastic symptomatology; 3) 31 depressives with anancastic symptomatology; 4) 260 schizophrenics free of anancastic symptolatology; and 5) 65 depressives free of anancastic symptomatology. Compared to the Greek population as a whole, a significantly higher incidence of blood type A was found in patients with obsessive-compulsive neurosis and a significantly higher incidence of blood type O in depressives free of anancastic symptomatology. (35)

Gibson, et al. (1973) studied the relation between IQ and ABO blood type among several hundred inhabitants of seven villages near Oxford, England. The subjects ranged in age from 18 to 70. Using the Wechsler Adult Intelligence Scale, the authors found "significant differences in mean IQ between some of the ABO phenotypes." The A_2 group (N = 25) and the A_2B group (N = 6), each with a mean of 111.16, had the highest mean IQs. The O group (N = 271), with a mean of 109.75, had a significantly higher mean IQ than the A_1 group (N = 263), with a mean of 106.95. When the O and A_1 phenotypes were compared separately in each of the seven villages,

1972 "ABO Blood Groups and the Aetiology of Schizophrenia," *Medical Journal of Australia*, Vol. 1, pp. 1252-1254.

(33) J. B. Parker, A. Theilie, and C. D. Spielberger
1961 "Frequency of Blood Types in a Homogeneous Group of Manic-Depressive Patients," *Journal of Mental Science*, Vol. 107, pp. 936-942.

(34) D. G. Irvine and H. Miyashita
1965 "Blood Types in Relation to Depressions and Schizophrenia," *Canadian Medical Association Journal*. Vol. 92, pp. 551-554.

(35) P. M. Rinieris, C. N. Stefanis, A. D. Rabavilas, and N. M. Vaidakis
1978 "Obsessive-Compulsive Neurosis, Anancastic Symptomatology, and ABO Blood Types," *Acta Psychiatrica Scandinavica*, Vol. 57, pp. 377-381.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the O group had a significantly higher mean IQ than the A_1 group in four of the villages. Dr. Gibson also noted that the association between IQ and ABO blood type may vary between populations. This would depend on whether the association was due "to linkage disequilibrium or pleiotropy." (36)

Osborne and Suddick (1971) investigated the relation between three factors of mental ability and eighteen blood type genes in a sample of White and Negro twins. The subjects were 54 White and 42 Negro twins, ranging in age from 13 to 18 years, from the state of Georgia (U.S.A.). Nineteen individual mental tests, comprising three distinct factors (verbal comprehension, perceptual speed, and spatial relations), were administered to the subjects. A mental ability index was obtained by averaging the three factor scores.

Regression of the mental ability index scores upon the blood type genes revealed different patterns of blood type gene predictors for the White and Negro samples. For the White subjects the six blood type genes which made the greatest contribution to variability in mental ability index scores were: Le^a, K, Fy^a, Jk^a, A_2, and A_1B. For the Negro subjects, the six blood type genes were: S, Le^a, Fy^a, Jk^a, A_1, and B. The coefficients of multiple determination (R^2) for the Negro regression equations were higher than those for the White regression equations. Hence, the coefficients of correlation between mental ability index factor scores and blood type genes were higher in the Negro sample than in the White, although statistically significant r values were obtained in both groups. The authors recommended study of the relation between mental ability and blood type gene frequency as "a different method of examining the heredity-environment uncertainty," and suggested extension of the study to additional racial and national groups. (37)

Cattell, Young, and Hundleby (1964) administered the 14-factor High School Personality Questionaire to a sample of 581 Italian and Italo-American students, who had been blood-

(36) John B. Gibsen, G. A. Harrison, V. A. Clarke, and R. W. Hiorns
1973 "IQ and ABO Blood Groups," *Nature*, Vol. 246, pp. 498-499.

(37) R. T. Osborne and D. E. Suddick
1971 "Blood Type Gene Frequency and Mental Ability," *Psychological Reports*, Vol. 29, pp. 1243-1249.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

typed for the ABO-system. The students ranged in age from 11 to 18 years and resided in three Italian cities (Rome, Florence, and Palermo) and one American city (Boston). Dr. Cattell found a statistically significant association between ABO blood type and Personality Factor I ("tough-minded" vs. "tender-minded"). Those individuals of blood type A were more "tender-minded" than those of blood types O, B, and AB (in that order). The mean score differences on Personality Factor J ("self-sufficient" vs. "gregarious") fell just short of the .05 level of significance, with those individuals of blood type AB being more "self-sufficient."(38)

The Distribution of the ABO Blood Groups Among South-Mississippi Anglo-Saxon School Children

From the early seventeenth century to the end of the eighteenth century, that part of North America which was to become the new American nation was settled by large numbers of migrants from Europe. The settlers were primarily from the British Isles, with smaller contingents of other Europeans, "such as the Spanish, French, Dutch and Swedes, to whom, before the end of the eighteenth century, were added some Germans . . . ." According to Ales Hrdlicka (1925), "the British colonists were mainly English and later 'Scotch-Irish,' with the Scotch, Irish and Welsh in smaller proportions."(39)

Madison Grant in his classic study of the racial history of the United States of America – *The Conquest of a Continent* (1933) – provided much valuable information on the ethnic and national elements who settled the original thirteen colonies and the subsequently formed states further to the west. The English settlers were fairly evenly distributed throughout the original thirteen colonies, except for Pennsylvania where they were somewhat underrepresented. The Puritan migrants to New England were almost purely English – and largely from their strongholds in southern and eastern England (Wessex and East Anglia). (40)

(38) Raymond B. Cattell, H. B. Young, and J. D. Hundleby
op. cit., pp. 397-402.
(39) Ales Hrdlicka
1925 *Old Americans*, Williams and Wilkins, Baltimore, pg. 1.
(40) Madison Grant

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The settlement of Virginia was more diverse than that of New England. Many Royalist families "from practically all over England and Scotland" settled in eastern Virginia during the period of Cromwellian rule in England (1640-1660). Since most of the other early migrants to eastern Virginia also came from England, by 1790 Virginia "was pure English in the tidewater district, that is, as far west as Richmond." (41)

Northern and western Virginia was settled by Ulster Scots (i.e., the so-called "Scotch-Irish" or Irish Protestants of recent English and Scottish origin) coming down through Pennsylvania into the Shenandoah Valley region. In the view of Madison Grant, "the great movement of Ulster Scots to America . . . has been perhaps second only to that from the English counties in its influence on the subsequent history of the continent." (42)

North Carolina was also settled by English in the eastern coastal region and by Ulster Scots in the western mountainous areas, "except that the Ulster Scots were relatively more numerous." In addition, large numbers of Scottish Highlanders emigrated to North Carolina following the failures of the 1715 and 1745 uprisings and the breakup of the clan system." (43)

According to Madison Grant, "South Carolina had an English planter aristocracy and was much purer English and had less Ulster Scotch than her northern neighbor." There was also a substantial French Huguenot element in South Carolina, "by far the largest and most influential in the colonies." Georgia was described as being "substantially of the same racial complexion as South Carolina." (44)

Alabama and Mississippi had virtually no American settlement until after the Revolutionary War. In 1798 the territory of Mississippi was formed, which comprised the present-day states of Alabama and Mississippi. Subsequently, there was a movement of settlers from the adjoining states to the east and north. The large majority of the settlers of Alabama and Mississippi prior to 1860 came from the neighboring southern states of

1933 *The Conquest of a Continent*, Charles Scribner, New York, pp. 81-101.

(41) *Ibid.*, pg. 80 and pp. 130-138.
(42) *Ibid.*, pp. 93-94.
(43) *Ibid.*, pp. 138-141.
(44) *Ibid.*, pg. 80.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Virginia, North and South Carolina, Georgia, and Tennessee. These people were almost entirely of "Scotch and English blood." By 1860 the White population of Mississippi had grown to nearly 400,000. About 8000 of these people were foreign born, mainly Irish. (45)

In the 60 years following the end of the American Civil War in 1865, millions of Europeans migrated to the United States. After 1890 the majority of these migrants came from southern and eastern Europe. These new immigrants greatly altered the population structure in many northeastern and midwestern American states. The southern states, however, were far less affected by these later migrations. Thus, Madison Grant in 1933 could write that the Whites of Mississippi "are almost all of the old native stock." (46) There has been little change in the ethnic composition of the White population of Mississippi in the succeeding forty-five years.

The subjects from whom the ABO blood group data were obtained are all students at three private academies in southern Mississippi. All of the students are White or Euro-American and virtually all are of English, Scottish, and Scotch-Irish origin. Almost all are Protestant in religious background, with the majority of the Baptist denomination. All three academies are located in predominantly rural areas of Mississippi. However, the occupations of the parents represent a cross-section of the American economy – farmers, construction workers, clerical workers, teachers, engineers, doctors, lawyers, small businessmen, et al. The students are middle-class to upper-middle-class in socio-economic status.

A preliminary report on the distribution of the ABO- and Rh-blood groups at two of the academies – Columbia Academy and Sanford Academy – was published in the July-September 1977 issue of *The Mankind Quarterly*. Since then students at a third academy – Brookhaven Academy – have been typed for both the ABO- and Rh- systems. The ABO data are presented in tables 6, 7, 8, 9, and 10.

Table 6 presents the distribution of the ABO phenotypes found among the school children at the three academies. The high percentage of blood type A, which is characteristic of

(45) *Ibid.*, pp. 183-185.
(46) *Ibid.*, pg. 243.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 6

DISTRIBUTION OF THE ABO PHENOTYPES AMONG SOUTH MISSISSIPPI ANGLO-SAXON SCHOOL CHILDREN

Geographical Region	Total No. of Subjects	Number of Type O	Percent of Type O	Number of Type A	Percent of Type A	Number of Type B	Percent of Type B	Number of Type AB	Percent of Type AB
Columbia Academy	386	175	45.3%	163	42.3%	32	8.3%	16	4.1%
Sanford Academy	66	33	50.0%	29	44.0%	1	1.5%	3	4.5%
Brookhaven Academy	194	89	45.9%	84	43.2%	16	8.2%	5	2.6%
Total South Mississippi	646	297	46.0%	276	42.7%	49	7.6%	24	3.7%

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 7

DISTRIBUTION OF THE ABO GENE FREQUENCIES* AMONG SOUTH MISSISSIPPI ANGLO-SAXON SCHOOL CHILDREN

Geographical Region	Number of Subjects	p-Gene Frequency	q-Gene Frequency	r-Gene Frequency
Columbia Academy	386	26.28	5.90	67.31
Sanford Academy	66	26.24	1.05	70.71
Brookhaven Academy	194	26.64	5.80	67.75
Total -- South Mississippi	646	26.36	5.39	67.82

* $p = \sqrt{A + O} - \sqrt{O}$,

$q = \sqrt{B + O} - \sqrt{O}$,

$r = \sqrt{O}$.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 8
Comparison of the distribution of ABO phenotype among
South Mississippi Anglo-Saxon school children and selected areas of Great Britain and Ireland

Geographical region	Number of subjects	% of blood type O	% of blood type A	% of blood type B	% of blood type AB
1. South Mississippi (Brookhaven, Sanford and Columbia Academies	646	46.0%	42.7%	7.6%	3.7%
2. Central England	60,606	46.2%	42.6%	8.1%	3.1%
3. East Yorkshire	8,455	46.0%	42.5%	8.4%	3.1%
4. Middlesex	23,617	46.3%	41.9%	8.7%	3.1%
5. South England	15,700	46.5%	42.4%	7.9%	3.2%
6. North and Central Wales	7,062	48.6%	37.6%	10.4%	3.4%
7. Central and South Scotland	53,675	50.8%	35.6%	10.6%	3.0%
8. North Antrim, N. Ireland	10,660	53.4%	33.6%	10.2%	2.8%
9. Londonderry, N. Ireland	8,036	56.0%	30.6%	10.4%	3.0%

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 9

DISTRIBUTION OF THE ABO PHENOTYPES AMONG SOUTH MISSISSIPPI ANGLO-SAXON SCHOOL CHILDREN TO WHOM THE CATTELL PERSONALITY TEST HAD BEEN ADMINISTERED

Geographical Region	Total No. of Subjects	Number of Type O	Percent of Type O	Number of Type A	Percent of Type A	Number of Type B	Percent of Type B	Number of Type AB	Percent of Type AB
Columbia Academy	348	163	46.8%	143	41.1%	29	8.3%	13	3.7%
Sanford Academy	46	25	54.3%	18	39.2%	0	-	3	6.5%
Brookhaven Academy	153	67	43.8%	68	44.4%	13	8.5%	5	3.3%
Total — South Mississippi	547	255	46.6%	229	41.9%	42	7.7%	21	3.8%

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 10

DISTRIBUTION OF THE ABO GENE FREQUENCIES* AMONG SOUTH MISSISSIPPI ANGLO-SAXON SCHOOL CHILDREN TO WHOM THE CATTELL PERSONALITY TEST HAD BEEN ADMINISTERED

Geographical Region	Number of Subjects	p-Gene Frequency	q-Gene Frequency	r-Gene Frequency
Columbia Academy	348	25.35	5.82	68.41
Sanford Academy	46	23.01	-	73.69
Brookhaven Academy	153	27.73	6.14	66.18
Total — South Mississippi	547	25.81	5.43	68.26

* $p = \sqrt{A + O} - \sqrt{O}$

$q = \sqrt{B + O} - \sqrt{O}$

$r = \sqrt{O}$

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

north and central European populations, is found at all three schools. 42.3% of the Columbia Academy students, 44.0% of the Sanford Academy students, and 43.2% of the Brookhaven Academy students are of blood type A. A somewhat higher percentage of O (50.0%) and lower percentage of blood type B (1.5%) is found at the smaller Sanford Academy as compared to either Columbia Academy where 45.3% of the students are of blood type O and 8.3% of blood type B or Brookhaven Academy where 45.9% of the students are of blood type O and 8.2% of blood type B. The distribution of the frequencies for the p-, q-, and r-genes in the ABO system is presented in Table 7.

The combined distribution of the ABO phenotypes among the 646 subjects blood typed at Columbia, Sanford, and Brookhaven Academies is: O = 46.0%, A = 42.7%, B = 7.6%, and AB = 3.7%. Table 8 presents a comparison of this ABO distribution with ABO distributions found in selected areas of England, Wales, Scotland, and Northern Ireland. As can be seen from the table, the ABO distribution of the Columbia, Sanford, and Brookhaven students is virtually identical with the distributions found in central, southern, and eastern England, On the basis of these comparative ABO distributions, it appears that the students at Columbia, Sanford, and Brookhaven Academies are predominantly of English origin, rather than Scottish or Scotch-Irish origin.

For 547 of the 646 students who had been blood-typed at the three academies, scores on the Cattell Personality Questionnaires were available. The distribution of the ABO phenotypes among this group of students at Columbia, Sanford, and Brookhaven Academies is presented in Table 9. For the 547 students at the three academies combined, the ABO distribution is: O = 46.6%, A = 41.9%, B = 7.7%. and AB = 3.8%. This is quite similar to the distribution of ABO phenotypes found among the full sample of 646 students. Finally, the distribution of the p-, q-, and r-gene frequencies among the 547 students to whom the Cattell Personality Questionnaires had been administered is presented in Table 10.

The Measurement and Inheritance of Personality

The description and study of individual and group differences in personality and temperament has long interested thinkers and scientists. Galen, a Greek physician who lived in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the second century A.D., is widely credited with the enunciation of a four-fold classification of temperaments based upon the predominance of different "humors" or biochemical fluids in the body. Galen's four main types were the sanguine, the choleric, the phlegmatic, and the melancholic. According to Leona Tyler (1956), "variations of these classifications have appeared under many names right down to our own century, and have been supplemented by typologies based on other aspects of observable personality." (47)

During the 19th. century the study of human behavior developed into the science of psychology. This was characterized by the founding of psychological laboratories, the conducting of numerous experiments, and the application of quantitative techniques. At this time the interests of research workers were focused on studies of sensory perception, measures of reaction time, and understanding of the physiological mechanisms underlying much of behavior. The goal of many of these pioneers in scientific psychology was to derive general "laws" linking behaviorable variables.(48) In the 20th century the study of personality emerged as well-defined sub-field within psychology. Many of the leading figures of contemporary psychology have formulated theories of personality structure and development. Reviews and analyses of the more important schools of thought have been provided by Hall and Lindzey (1970) in their work *Theories of Personality*.(49)

Much of the work in the study of personality has occurred in clinical settings and has been primarily concerned with abnormal or deviant populations. Research techniques have frequently been subjective and descriptive in nature. However, within the field of personality research, several investigators have attempted to construct theories of personality utilizing the same objective and quantitative techniques that have long been employed in the study of intelligence and mental ability. Three of the most prominent workers employing these methods – in particular, the statistical techniques of correlational and

(47) Leona E. Tyler
1956 *The Psychology of Human Difference*, Appleton-Century-Crofts, New York, pg. 163.

(48) Henry E. Garrett
1957 *Great Experiments in Psychology*, Appleton-Century-Crofts, New York, pp. 292-352.

(49) Calvin S. Hall and Gardner Lindzey
1970 *Theories of Personality*, John Wiley & Sons, New York.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

factor analysis – are J. P. Guilford, H. J. Eysenck, and R. B. Cattell. According to Hall and Lindzey, "Cattell has developed over the years a large, diversified, and complex theory of personality. . . . Cattell and his co-workers have produced a volume of empirical data related to their theory which exceeds that inspired by most of the personality theories . . . ." (50)

Cattell views "personality as a complex and differentiated structure of traits." A *trait* for him is a "mental structure" – i.e., "an inference that is made from observed behavior to account for regularity or consistency in this behavior." Cattell further distinguishes between *surface traits*, "which represent underlying variables that enter into the determination of multiple surface manifestations." (51)

To determine these personality traits, Cattell attempted to sample the whole personality sphere. He employed three major sourced of data: the life record (L-data); the self-rating questionnaire (Q-data); and the objective test (T-data). Objective test data may be derived from pencil and paper tasks or from employment of laboratory apparatus of various kinds. Cattell then calculated the correlations between measures of personality and components of personality derived from all three sources of data. (52)

Correlation matrices obtained in this manner were then factor-analyzed to yield new matrices of reduced dimensions. The columns of the reduced matrix comprised clusters of personality measures (or "personality factors") which were highly correlated with one another. However, each personality factor was uncorrelated or moderately correlated with the other personality factors. The factors obtained in this manner were identified by Dr. Cattell as surface traits and were subsequently labelled on the basis of the factor contents.

Table 11 presents a list of twelve personality factors which Cattell has obtained from factor analytic studies of both L-data and Q-data. Both technical titles and popular labels for the factors are provided in the table. The list of personality factors comprises primarily the relatively stable and enduring *temperament traits*. However, one *ability trait* (Factor B – Intelligence)

(50) *Ibid.*, pp. 380-416.
(51) *Ibid.*, pp. 386-387.
(52) *Ibid.*, pp. 388-389.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 11
TWELVE MAJOR TRAITS OF PERSONALITY DERIVED FROM FACTOR–ANALYTIC STUDIES OF L-DATA AND Q-DATA
(Cattell, 1966)*

Letter Symbol	Technical Title	Popular Label
A	Affectothymia-Sizothymia	Outgoing-reserved
B	Intelligence	More intelligent-less intelligent
C	Ego strength	Stable-emotional
E	Dominance-Submissiveness	Assertive-humble
F	Surgency-Desurgency	Happy-go-lucky-sober
G	Super-ego strength	Conscientious-expedient
H	Parmia-Threctia	Venturesome-shy
I	Premsia-Harria	Tender-minded-tough-minded
L	Protension-Alaxia	Suspicious-trusting
M	Autia-Praxernia	Imaginative-practical
N	Shrewdness-Artlessness	Shrewd-forthright
O	Guilt proneness-Assurance	Apprehensive-placid

*Raymond B. Cattell, *The Scientific Analysis of Personality*, Aldine, Chicago, Illinois, 1966, pg. 365.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and one *dynamic trait* (Factor E – Dominance) are included in the list. (53)

Factor analysis of the intercorrelations among the primary or surface traits yielded a lesser number of secondary or source traits. The most important of these factors were labelled by Dr. Cattell as Exvia-Invia (extraversion – introversion) and Anxiety. The former showed high factor loadings on primary factors A, F, H, and M. The latter showed high factor loadings on primary factors C, H, L, and O. (54)

Dr. Cattell has also sought to determine the relative importance of genetic and environmental factors on variation in traits of personality. For this purpose he developed a multiple analysis of variance method for partitioning the total observed variance in a personality trait into the variances within and between families for a variety of kinship categories. The method involved use of five simultaneous equations to solve for four variance unknowns and one unknown correlation coefficient. In this way the nature-nurture ratios were obtained in the form of a general solution. (55)

Cattell (1955) first applied his method to a sample of 104 identical twins, 64 fraternal twins, 182 siblings reared together, 72 unrelated children reared together, and 540 children in the general population. The Junior Personality Questionnaire test was administered to the subjects who were all in the 11 to 15 year age range. The test provided measures for twelve personality factors, including intelligence (Factor B).

Cattell found for this population three personality factors primarily determined by heredity. These were Cyclothymia vs. Schizothymia (Factor A), Adventurous Cyclothymia vs. Submissiveness (Factor H), and General Intelligence (Factor B). Five factors of personality were found to be predominantly determined by environment. These were Tender-Mindedness (Factor I), General Neuroticism (Factor C), Surgency-Desurgency (Factor F), Will Control (Factor Q_3), and Somatic

(53) *Ibid.*, pp. 388-390.
(54) *Ibid.*, pg. 387 and pp. 390-391.
(55) Raymond B. Cattell
1953 "Research Designs in Psychological Genetics with Special Reference to the Multiple Variance Method," *American Journal of Human Genetics*, Vol. 5, No. 1, 1953, pp. 76-93.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Anxiety (Factor Q_4). Four personality factors showed an approximately equal role for heredity and environment, with heredity the predominant determinant of between family variance. These were Energetic Conformity (Factor J), Dominance (Factor E), Socialized Morale (Factor K), and Impatient Dominance (Factor D). (56)

Other investigators have compared the similarities between identical and fraternal twins on a variety of personality measures in order to estimate the relative role of heredity in the determination of personality trait variance. Robert C. Nichols (1978) has recently reviewed 211 twin studies of ability (intelligence and achievement), 116 twin studies of interests, and 106 twin studies of personality. The inheritance of nine different dimensions of personality was investigated by this means. They included extraversion-introversion, dominance, conformity, and impulsiveness.

For the 106 twin studies of all nine dimensions of personality, the mean intraclass correlations were r = +0.48 for the monozygotic twins and r = +0.29 for the dizygotic twins. The mean difference of r_{MZ-DZ} = 0.19 was statistically significant. Similar results were obtained for the 116 twin studies of interests. Higher intraclass correlations were found for both the identical twins (r = +0.74) and the fraternal twins (r = +0.54) on the 211 twin studies of twelve dimensions of intelligence and achievement. However, the difference between the two sets of twins of r_{MZ-DZ} = 0.21 was similar to that found for personality and interests. Dr. Nichols interpreted these results as indicating "that about half the variation among people in a broad spectrum of psychological traits is due to differences among the people in genetic characteristics."(57)

ABO Blood Type and Personality Factor

In the course of his research Dr. Cattell has developed a number of questionnaire tests to provide careful descriptions

(56) Raymond B. Cattell, Duncan B. Blewett, and John R. Beloff
1955 "The Inheritance of Personality," *American Journal of Human Genetics,"* Vol. 7, No. 2, pp. 122-146.

(57) Robert C. Nichols
1978 "Twin Studies of Ability, Personality, and Interests," *Homo*, Vol. 29, pp. 158-172.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of personality. These tests are designed to measure the primary surface traits and secondary source traits of personality which have been identified in his previous factor-analytic studies. For adult subjects he constructed the Sixteen Personality Factor Questionnaire. This test consists of 184 multiple-choice questions selected to measure the level of sixteen primary personality factors and eight composite secondary personality factors.

In order to study the development of personality, Cattell extended his factor-analytic studies to adolescents and children. In general, he found "similar factors at ages ranging from four-five years to adulthood, although there is a tendency to obtain fewer factors at the younger ages." Cattell also found evidence "for age trends on temperament factors, such as rises over the age range eleven to twenty-three in H (adventurousness) and C (ego strength), and drops in O (guilt-proneness) and L (suspiciousness)." (58)

Dr. Cattell has also constructed questionnaire tests of personality for adolescents (ages 12 to 18), children (ages 8 to 12), and young children (ages 6 to 8). These are the fourteen-factor High School Personality Questionnaire (HSPQ), the fourteen-factor Children's Personality Questionnaire (CPQ), and the thirteen-factor Early School Personality Questionnaire (ESPQ). Table 12 presents a list of the fourteen factors of personality measured by the High School Personality Questionnaire. The technical titles, popular terms, and alphabetic designations are provided for each trait. (59)

Each test consists of a number of multiple-choice questions selected to measure the personality factor structure appropriate for that particular age group. The raw scores of the test responses for each personality trait are converted into sten scores, which range from 1 to 10 with a mean of 5.5. Each trait is presented as "a bi-polar continuum, the two polar titles . . . describing the *extreme* opposite poles." Consequently, an

(58) Calvin S. Hall and Gardner Lindzey
op. cit., pg. 399.

(59) Raymond B. Cattell and Mary D. L. Cattell
1975 *Handbook for the Jr.-Sr. High School Personality Questionnaire*, Institute for Personality and Ability Testing, Champaign, Illinois, pp. 6-8.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 12
TITLES AND SYMBOLS OF THE FOURTEEN DIMENSIONS OF PERSONALITY MEASURED BY THE CATTELL HIGH SCHOOL PERSONALITY QUESTIONNAIRE
(Cattell, 1975)*

		Low Sten Score Description (1—3)	Alphabetic Designation of Factor	High Sten Score Description (8—10)	
Professional Term	(A−)	Sizothymia	A	Affectothymia	(A+)
Popular Terms		*Reserved*, detached, critical, aloof, stiff		*Warmhearted*, outgoing, easygoing, participating	
Professional	(B−)	Low intelligence (Crystallized, power measure)	B	High intelligence (Crystallized, power measure)	(B+)
Popular		*Dull*		*Bright*	
Professional	(C−)	Lower ego strength	C	Higher ego strength	(C+)
Popular		*Affected by feelings*, emotionally less stable, easily upset, changeable		*Emotionally stable*, mature, faces reality, calm	
Professional	(D−)	Phlegmatic temperament	D	Excitability	(D+)
Popular		*Undemonstrative*, deliberate, inactive, stodgy		*Excitable*, impatient, demanding, overactive, unrestrained	
Professional	(E−)	Submissiveness	E	Dominance	(E+)
Popular		*Obedient*, mild, easily led, docile, accommodating		*Assertive*, aggressive, competitive, stubborn	
Professional	(F−)	Desurgency	F	Surgency	(F+)
Popular		*Sober*, taciturn, serious		*Enthusiastic*, heedless, happy-go-lucky	
Professional	(G−)	Weaker superego strength	G	Stronger superego strength	(G+)
Popular		*Disregards rules*, expedient		*Conscientious*, persistent, moralistic, staid	
Professional	(H−)	Threctia	H	Parmia	(H+)
Popular		*Shy*, timid, threat-sensitive		*Adventurous*, "thick-skinned," socially bold	
Professional	(I−)	Harria	I	Premsia	(I+)
Popular		*Tough-minded*, rejects illusions		*Tender-minded*, sensitive, dependent, overprotected	
Professional	(J−)	Zeppia	J	Coasthenia	(J+)
Popular		*Zestful*, liking group action		*Circumspect individualism*, reflective, internally restrained	
Professional	(O−)	Untroubled adequacy	O	Guilt proneness	(O+)
Popular		*Self-assured*, placid, secure, complacent, serene		*Apprehensive*, self-reproaching, insecure, worrying, troubled	
Professional	(Q_2−)	Group dependency	Q_2	Self-sufficiency	(Q_2+)
Popular		*Sociably group dependent*, a "joiner" and sound follower		*Self-sufficient*, resourceful, prefers own decisions	
Professional	(Q_3−)	Low self-sentiment integration	Q_3	High strength of self-sentiment	(Q_3+)
Popular		*Uncontrolled*, lax, follows own urges, careless of social rules		*Controlled*, exacting will power, socially precise, compulsive, following self-image	
Professional	(Q_4−)	Low ergic tension	Q_4	High ergic tension	(Q_4+)
Popular		*Relaxed*, tranquil, torpid, unfrustrated, composed		*Tense*, driven, overwrought, fretful	

* Raymond B. Cattell and Mary D. L. Cattell, *Handbook for the Jr. - Sr. High School Personality Questionnaire*, Institute for Personality and Ability Testing, Champaign, Illinois, 1975, pg. 7.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

individual with low sten scores of 1 to 3 on Factor A would be described as "reserved" or "aloof", while an individual with high sten scores of 8 to 10 would be described as "outgoing" or "warm-hearted." (60)

Sten scores on the different personality factors can be graphed to provide a personality profile for each subject. These personality profiles are employed by psychologists for educational counseling, vocational guidance, and clinical assessment. Averaging personality profiles for selected categories of subjects has provided investigators with group personality profiles of educational achievers, creative artists and writers, delinquents, neurotics, et. al. (61)

Dr. Cattell's personality tests were standardized on American school populations, with a large proportion of the student sample obtained from rural middle-class families in the Midwest of the United States. However, the personality questionnaires have been translated into several foreign languages. They have also been employed in cross-cultural studies of the personality profiles of different racial and national groups. (62)

Results obtained by research workers in England, Australia, and Japan "confirm that the general pattern of correlations (scales and pure factors) is consistent across cultures." However, cross-cultural studies have also shown "significant mean differences among American, British, Australian, Italian, and Japanese children." According to Cattell "the comparisons of Americans, British, Italians, Australians, and Japanese show significant differences in the directions hypothesized by cultural anthropologists — and, of course, show that distinct norms must be built up in these countries." (63)

Cattell and his associates found significant racial and cultural differences between Japanese and Americans on the High School Personality Questionnaire. Both Japanese in Japan and Japanese-Americans were significantly "more introverted and higher on the second-order Factor Q_{IV} (Independence)." Another study found the most marked differences on first order personality traits I (Tough-minded vs. Tender-minded),

(60) *Ibid.*, pp. 19-21.
(61) *Ibid.*, pp. 43-75.
(62) *Ibid.*, pg. 22.
(63) *Ibid.*, pp. 22, 35, and pp. 63-64.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

J (Zestful vs. Circumspect), and G (Expedient vs. Conscientious). The Japanese subjects were higher on all three factors. (64)

Comparisons of British and American students found Americans higher on personality factors F (Sober vs. Enthusiastic) and E (Obedient vs. Assertive), and lower on factor Q_2 (Group Dependent vs. Self-sufficient). These primary factors are the main extraversion components. Furthermore, American students were higher on personality factors O (Self-assured vs. Apprehensive) and Q_4 (Relaxed vs. Tense), and lower on C (Affected by feelings vs. Emotionally stable). These primary factors are the main anxiety components. Australian students also differed from Americans "in much the same directions as English do." (65)

Cattell personality questionnaires were administered to nearly 1,000 students in Grades 1 through 12 at Columbia, Sanford, and Brookhaven Academies. The tests were administered by three graduate students of Dr. Ralph Scott, the Director of the Educational Clinic at the University of Northern Iowa, who assisted in the psychological part of the present study. Mr. David Engelstad and Mr. Bryce Kim administered the personality questionnaires to the students at Columbia and Sanford Academies in April 1976. Mr. Patrick Mooney administered the personality questionnaires to the students at Brookhaven Academy in October 1976.

The fourteen-factor High School Personality Questionnaire was administered to students in Grades 7 through 12. The fourteen-factor Children's Personality Questionnaire was administered to students in Grades 3 through 7 and the thirteen-factor Early School Personality Questionnaire was administered to students in Grades 1 and 2. Twelve factors of personality are measured by all three tests. Factor Q_2 (Group-dependent vs. Self-sufficient) on the HSPQ is replaced by Factor N (Forthright vs. Shrewd) on the CPQ and the ESPQ Factor Q_3 (Uncontrolled vs. Controlled) is also omitted on the ESPQ.

The personality profiles of the total student population and the relation of age and sex to mean factor scores will be presented in subsequent papers. The correlates of personality

(64) *Ibid.*, pp. 63-64.
(65) *Ibid.*, pp. 63-64.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

factors with physical traits, such as hair color and eye color, will also be investigated. For thirteen of the fifteen factors of personality the combined mean sten scores for the three academies are between the medium values of 5.0 and 6.0 For two factors the combined means are below 5.0. These are Factor I – i.e., more "tough-minded" – and Factor Q_2 – i.e., more "group-dependent." For Factor Q_2 (Group-dependent vs. Self-sufficient), the mean of this American student population is significantly lower – i.e., in the direction of more "group-dependent" – than that reported by Dr. Cattell for the British normative student sample.

For 547 students at the three Mississippi academies, both ABO blood type data and sten scores on the Cattell personality questionnaires were available. Tables 13, 14 and 15 present the distributions of the mean scores on the Cattell personality tests by ABO blood type for Columbia, Sanford and Brookhaven Academies respectively. Table 16 presents the distribution of the mean personality factor scores for the four ABO blood types for the three academies combined.

As can be seen from Table 16, the mean scores for each personality factor differ by ABO blood type. The statistical significance of these mean blood type differences was tested by means of an analysis of variance. F-ratios were calculated for each of the fifteen sets of factor scores. In the case of Factor Q_4 (Relaxed vs. Tense), the mean blood type differences were statistically significant at both the .05 and .01 levels. That is, those students of blood type O ($X = 5.87$) were more "tense" than those of blood type A ($X = 5.38$) or blood type B ($X = 5.24$). On the other hand, those students of blood type AB ($X = 6.71$) were the most "tense" of all.

In the case of Factor H (Shy vs. Venturesome), the mean blood type differences approached but did not reach significance at the .05 level. For this personality factor those students of blood type A ($X = 5.41$) were more "venturesome" than those of blood types O ($X = 5.25$) or AB ($X = 4.29$). Those subjects of blood type B ($X = 5.55$) had the highest mean score on this factor. The variance analysis test results for all fifteen personality factors are presented in Table 17.

Discussion and Analysis

The results obtained in this statistical study of the relation

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 13

DISTRIBUTION OF THE MEAN SCORES ON THE CATTELL PERSONALITY TEST BY ABO BLOOD TYPE AMONG COLUMBIA ACADEMY SCHOOL CHILDREN

	Personality Factor*	Blood Type O	Blood Type A	Blood Type B	Blood Type AB
1.	FACTOR A (Reserved vs. Warm-Hearted)	$\bar{X}$ = 5.69	5.62	5.93	4.69
		σ = 1.86	1.84	1.85	1.75
		n = 163	143	29	13
2.	FACTOR B (Dull vs. Bright)	$\bar{X}$ = 5.66	5.71	5.90	5.77
		σ = 1.93	1.80	1.88	1.30
		n = 163	143	29	13
3.	FACTOR C (Affected by Feelings vs. Emotionally Stable)	$\bar{X}$ = 5.37	5.59	5.34	4.54
		σ = 1.85	2.05	2.21	1.33
		n = 163	143	29	13
	FACTOR D (Phlegmatic vs. Excitable)	$\bar{X}$ = 5.60	5.66	5.69	6.15
		σ = 1.90	2.11	2.07	2.15
		n = 163	143	29	13
5.	FACTOR E (Submissive vs. Dominant)	$\bar{X}$ = 5.36	5.31	5.62	5.31
		σ = 2.17	2.04	1.70	1.75
		n = 163	143	29	13
6.	FACTOR F (Sober vs. Enthusiastic)	$\bar{X}$ = 5.40	5.36	6.24	4.77
		σ = 2.11	2.09	1.94	2.17
		n = 163	143	29	13
7.	FACTOR G (Expedient vs. Conscientious)	$\bar{X}$ = 5.13	5.17	4.93	4.77
		σ = 1.83	1.97	2.14	1.92
		n = 163	143	29	13
8.	FACTOR H (Shy vs. Venturesome)	$\bar{X}$ = 5.31	5.31	5.28	3.69
		σ = 1.93	2.09	1.79	2.06
		n = 163	143	29	13
9.	FACTOR I (Tough-Minded vs. Tender-Minded)	$\bar{X}$ = 5.04	4.97	4.52	4.92
		σ = 2.06	2.06	2.34	1.19
		n = 163	143	29	13
10.	FACTOR J (Zestful vs. Circumspect)	$\bar{X}$ = 4.93	4.97	5.00	6.08
		σ = 1.97	1.94	2.14	2.02
		n = 163	143	29	13

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 13
(Continued)

Personality Factor*		Blood Type O	Blood Type A	Blood Type B	Blood Type AB
11.	FACTOR N (Forthright vs. Shrewd)	$\bar{X}$ = 5.14 σ = 1.99 n = 91	5.09 2.13 77	4.81 2.26 16	6.40 1.34 5
12.	FACTOR O (Self-Assured vs. Guilt-Prone)	$\bar{X}$ = 5.14 σ = 1.84 n = 163	5.43 1.92 143	4.86 1.83 29	6.69 1.80 13
13.	FACTOR Q_2 (Group-Dependent vs. Self-Sufficient)	$\bar{X}$ = 4.92 σ = 1.80 n = 72	5.09 2.07 66	5.23 2.24 13	5.88 2.47 8
14.	FACTOR Q_3 (Undisciplined vs. Controlled)	$\bar{X}$ = 5.32 σ = 1.79 n = 135	5.33 2.06 125	4.92 1.87 26	4.58 1.88 12
15.	FACTOR Q_4 (Relaxed vs. Tense)	$\bar{X}$ = 5.70 σ = 2.27 n = 163	5.40 2.27 143	5.21 2.13 29	6.77 1.74 13

* $\bar{X}$ = Mean; σ = Standard Deviation; n = Number of Subjects.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 14

DISTRIBUTION OF THE MEAN SCORES ON THE CATTELL PERSONALITY TEST BY ABO BLOOD TYPE AMONG SANFORD ACADEMY SCHOOL CHILDREN

	Personality Factor*	Blood Type O	Blood Type A	Blood Type B	Blood Type AB
1.	FACTOR A (Reserved vs. Warm-Hearted)	$\bar{X}$ = 5.56 σ = 1.64 n = 25	5.44 1.34 18	-	4.67 2.52 3
2.	FACTOR B (Dull vs. Bright)	$\bar{X}$ = 4.92 σ = 1.82 n = 25	4.94 2.18 18	-	5.67 0.58 3
3.	FACTOR C (Affected by Feelings vs. Emotionally Stable)	$\bar{X}$ = 5.20 σ = 1.76 n = 25	5.33 2.00 18	-	4.67 2.52 3
4.	FACTOR D (Phlegmatic vs. Excitable)	$\bar{X}$ = 6.08 σ = 1.71 n = 25	5.61 1.72 18	-	4.67 2.89 3
5.	FACTOR E (Submissive vs. Dominant)	$\bar{X}$ = 5.80 σ = 2.06 n = 25	5.94 1.80 18	-	5.67 2.08 3
6.	FACTOR F (Sober vs. Enthusiastic)	$\bar{X}$ = 4.96 σ = 2.32 n = 25	5.56 2.25 18	-	4.00 2.65 3
7.	FACTOR G (Expedient vs. Conscientious)	$\bar{X}$ = 5.08 σ = 1.93 n = 25	5.11 1.97 18	-	6.33 1.53 3
8.	FACTOR H (Shy vs. Venturesome)	$\bar{X}$ = 4.52 σ = 1.90 n = 25	5.72 1.71 18	-	4.67 2.89 3
9.	FACTOR I (Tough-Minded vs. Tender-Minded)	$\bar{X}$ = 5.48 σ = 1.78 n = 25	4.83 1.50 18	-	3.67 2.52 3
10.	FACTOR J (Zestful vs. Circumspect)	$\bar{X}$ = 5.52 σ = 2.18 n = 25	4.39 2.15 18	-	6.67 2.08 3

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 14
(Continued)

	Personality Factor*	Blood Type O	Blood Type A	Blood Type B	Blood Type AB
11.	FACTOR N (Forthright vs. Shrewd)	$\bar{X}$ = 5.94 σ = 1.73 n = 16	5.09 2.17 11	-	6.00 4.24 2
12.	FACTOR O (Self-Assured vs. Guilt-Prone)	$\bar{X}$ = 5.56 σ = 1.50 n = 25	5.06 1.80 18	-	3.67 2.52 3
13.	FACTOR Q_2 (Group-Dependent vs. Self-Sufficient)	$\bar{X}$ = 5.33 σ = 2.24 n = 9	5.43 1.72 7	-	4.00 0.00 1
14.	FACTOR Q_3 (Undisciplined vs. Controlled)	$\bar{X}$ = 5.24 σ = 2.14 n = 21	4.94 1.56 17	-	5.00 4.58 3
15.	FACTOR Q_4 (Relaxed vs. Tense)	$\bar{X}$ = 6.44 σ = 1.45 n = 25	5.06 1.59 18	-	6.00 3.00 3

* $\bar{X}$ = Mean; σ = Standard Deviation; n = Number of Subjects.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 15

DISTRIBUTION OF THE MEAN SCORES ON THE CATTELL PERSONALITY TEST BY ABO BLOOD TYPE AMONG BROOKHAVEN ACADEMY SCHOOL CHILDREN

	Personality Factor*	Blood Type O	Blood Type A	Blood Type B	Blood Type AB
1.	FACTOR A (Reserved vs. Warm-Hearted)	$\bar{X}$ = 5.06 σ = 2.07 n = 67	5.19 1.77 68	5.23 1.74 13	6.20 1.10 5
2.	FACTOR B (Dull vs. Bright)	$\bar{X}$ = 6.15 σ = 1.69 n = 67	5.54 1.73 68	6.31 2.10 13	6.60 1.67 5
3.	FACTOR C (Affected by Feelings vs. Emotionally Stable)	$\bar{X}$ = 5.43 σ = 1.88 n = 67	5.62 1.77 68	5.69 1.44 13	5.80 1.48 5
4.	FACTOR D (Phlegmatic vs. Excitable)	$\bar{X}$ = 5.94 σ = 1.79 n = 67	5.51 2.35 68	4.62 1.89 13	6.00 2.55 5
5.	FACTOR E (Submissive vs. Dominant)	$\bar{X}$ = 5.63 σ = 2.08 n = 67	5.24 2.19 68	5.23 2.01 13	4.80 1.64 5
6.	FACTOR F (Sober vs. Enthusiastic)	$\bar{X}$ = 5.57 σ = 1.99 n = 67	5.53 2.01 68	5.54 2.07 13	6.60 2.30 5
7.	FACTOR G (Expedient vs. Conscientious)	$\bar{X}$ = 5.22 σ = 1.77 n = 67	5.07 2.10 68	5.31 2.53 13	5.60 1.34 5
8.	FACTOR H (Shy vs. Venturesome)	$\bar{X}$ = 5.37 σ = 1.94 n = 67	5.51 1.90 68	6.15 1.52 13	5.60 0.89 5
9.	FACTOR I (Tough-Minded vs. Tender-Minded)	$\bar{X}$ = 4.46 σ = 2.22 n = 67	4.66 1.63 68	4.54 1.81 13	3.40 2.30 5
10.	FACTOR J (Zestful vs. Circumspect)	$\bar{X}$ = 4.97 σ = 1.82 n = 67	4.91 1.78 68	5.08 1.85 13	3.20 1.30 5

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 15
(Continued)

Personality Factor*		Blood Type O	Blood Type A	Blood Type B	Blood Type AB
11. FACTOR N (Forthright vs. Shrewd)	$\bar{X}$	6.08	5.41	5.20	2.50
	σ	2.21	2.62	3.70	2.12
	n	24	27	5	2
12. FACTOR O (Self-Assured vs. Guilt-Prone)	$\bar{X}$	5.57	5.32	4.31	4.60
	σ	1.84	2.04	2.02	2.07
	n	67	68	13	5
13. FACTOR Q_2 (Group-Dependent vs. Self-Sufficient)	$\bar{X}$	4.67	4.56	6.13	4.33
	σ	2.11	1.48	1.36	1.15
	n	43	41	8	3
14. FACTOR Q_3 (Undisciplined vs. Controlled)	$\bar{X}$	5.56	5.81	6.55	5.20
	σ	1.81	1.92	1.75	1.30
	n	55	59	11	5
15. FACTOR Q_4 (Relaxed vs. Tense)	$\bar{X}$	6.07	5.41	5.31	7.00
	σ	2.02	2.05	2.43	2.74
	n	67	68	13	5

* $\bar{X}$ = Mean; σ = Standard Deviation; n = Number of Subjects.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 16

DISTRIBUTION OF THE MEAN SCORES ON THE CATTELL PERSONALITY TEST BY ABO BLOOD TYPE AMONG SOUTH MISSISSIPPI ANGLO-SAXON SCHOOL CHILDREN +

	Personality Factor*		Blood Type O	Blood Type A	Blood Type B	Blood Type AB
1.	FACTOR A (Reserved vs. Warm-Hearted)	$\bar{X}$	5.51	5.48	5.71	5.05
		σ	1.91	1.79	1.83	1.77
		n	255	229	42	21
2.	FACTOR B (Dull vs. Bright)	$\bar{X}$	5.71	5.60	6.02	5.95
		σ	1.88	1.82	1.93	1.32
		n	255	229	42	21
3.	FACTOR C (Affected by Feelings vs. Emotionally Stable)	$\bar{X}$	5.37	5.58	5.45	4.86
		σ	1.84	1.96	1.99	1.56
		n	255	229	42	21
4.	FACTOR D (Phlegmatic vs. Excitable)	$\bar{X}$	5.74	5.61	5.36	5.90
		σ	1.86	2.15	2.06	2.28
		n	255	229	42	21
5.	FACTOR E (Submissive vs. Dominant)	$\bar{X}$	5.47	5.34	5.50	5.24
		σ	2.13	2.07	1.78	1.70
		n	255	229	42	21
6.	FACTOR F (Sober vs. Enthusiastic)	$\bar{X}$	5.40	5.43	6.02	5.10
		σ	2.10	2.07	1.98	2.32
		n	255	229	42	21
7.	FACTOR G (Expedient vs. Conscientious)	$\bar{X}$	5.15	5.14	5.05	5.19
		σ	1.82	2.00	2.24	1.78
		n	255	229	42	21
8.	FACTOR H (Shy vs. Venturesome)	$\bar{X}$	5.25	5.41	5.55	4.29
		σ	1.94	2.00	1.74	2.05
		n	255	229	42	21
9.	FACTOR I (Tough-Minded vs. Tender-Minded)	$\bar{X}$	4.93	4.86	4.52	4.38
		σ	2.09	1.90	2.17	1.75
		n	255	229	42	21
10.	FACTOR J (Zestful vs. Circumspect)	$\bar{X}$	5.00	4.90	5.02	5.48
		σ	1.95	1.91	2.03	2.23
		n	255	229	42	21

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 16
(Continued)

Personality Factor*		Blood Type O	Blood Type A	Blood Type B	Blood Type AB
11.	FACTOR N (Forthright vs. Shrewd)	$\bar{X}$ = 5.41	5.17	4.90	5.44
		σ = 2.03	2.24	2.57	2.55
		n = 131	115	21	9
12.	FACTOR O (Self-Assured vs. Guilt-Prone)	$\bar{X}$ = 5.29	5.37	4.69	5.76
		σ = 1.82	1.94	1.88	2.23
		n = 255	229	42	21
13.	FACTOR Q_2 (Group-Dependent vs. Self-Sufficient)	$\bar{X}$ = 4.86	4.92	5.57	5.33
		σ = 1.94	1.87	1.96	2.19
		n = 124	114	21	12
14.	FACTOR Q_3 (Undisciplined vs. Controlled)	$\bar{X}$ = 5.37	5.44	5.41	4.80
		σ = 1.83	1.99	1.96	2.17
		n = 211	201	37	20
15.	FACTOR Q_4 (Relaxed vs. Tense)	$\bar{X}$ = 5.87	5.38	5.24	6.71
		σ = 2.15	2.15	2.20	2.08
		n = 255	229	42	21

* $\bar{X}$ = Mean; σ = Standard Deviation; n = Number of Subjects.
\+ South Mississippi = Columbia Academy + Sanford Academy + Brookhaven Academy.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 17

ANALYSIS OF VARIANCE — COMPARISON OF THE MEAN FACTOR SCORES ON THE CATTELL PERSONALITY TEST BY ABO BLOOD TYPE FOR SOUTH MISSISSIPPI ANGLO-SAXON SCHOOL CHILDREN+

	Personality Factor	Source of Variation	Degrees of Freedom	Sums of Squares	Mean Squares	F Ratio	P*
1.	FACTOR A (Reserved vs. Warm-Hearted)	Between Classes	3	6.36	2.12	0.62	N.S.
		Within Classes	543	1854.37	3.42		
2.	FACTOR B (Dull vs. Bright)	Between Classes	3	7.96	2.65	0.78	N.S.
		Within Classes	543	1842.87	3.39		
3.	FACTOR C (Affected by Feelings vs. Emotionally Stable)	Between Classes	3	12.71	4.24	1.18	N.S.
		Within Classes	543	1948.23	3.59		
4.	FACTOR D (Phlegmatic vs. Excitable)	Between Classes	3	7.17	2.39	0.59	N.S.
		Within Classes	543	2209.26	4.07		
5.	FACTOR E (Submissive vs. Dominant)	Between Classes	3	3.27	1.09	0.26	N.S.
		Within Classes	543	2321.00	4.27		
6.	FACTOR F (Sober vs. Enthusiastic)	Between Classes	3	17.22	5.74	1.32	N.S.
		Within Classes	543	2370.05	4.36		
7.	FACTOR G (Expedient vs. Conscientious)	Between Classes	3	0.46	0.15	0.04	N.S.
		Within Classes	543	2018.98	3.72		
8.	FACTOR H (Shy vs. Venturesome)	Between Classes	3	27.47	9.16	2.39	N.S.
		Within Classes	543	2077.36	3.83		
9.	FACTOR I (Tender-Minded vs. Tough-Minded)	Between Classes	3	10.75	3.58	0.93	N.S.
		Within Classes	543	2090.96	3.85		
10.	FACTOR J (Zestful vs. Circumspect)	Between Classes	3	6.67	2.22	0.58	N.S.
		Within Classes	543	2068.11	3.81		
11.	FACTOR N (Forthright vs. Shrewd)	Between Classes	3	6.99	2.33	0.49	N.S.
		Within Classes	272	1291.63	4.75		
12.	FACTOR O (Self-Assured vs. Guilt-Prone)	Between Classes	3	21.10	7.03	1.96	N.S.
		Within Classes	543	1942.92	3.58		

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 17
(Continued)

Personality Factor	Source of Variation	Degrees of Freedom	Sums of Squares	Mean Squares	F Ratio	P*
13. FACTOR Q_2 (Group-Dependent vs. Self-Sufficient)	Between Classes	3	10.86	3.62	0.98	N.S.
	Within Classes	267	984.77	3.69		
14. FACTOR Q_3 (Undisciplined vs. Controlled)	Between Classes	3	7.43	2.48	0.67	N.S.
	Within Classes	465	1721.01	3.70		
15. FACTOR Q_4 (Relaxed vs. Tense)	Between Classes	3	60.56	20.19	4.36	$P < .01$
	Within Classes	543	2512.34	4.63		

+ South Mississippi = Columbia Academy + Sanford Academy + Brookhaven Academy.

* N.S. = Not significant. With degrees of freedom = 3,400, $F \geq 2.62$ for significance at the $P < .05$ level and $F \geq 3.83$ for significance at the $P < .01$ level.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

between ABO blood type and factor of personality are strikingly similar to those obtained by Dr. Raymond B. Cattell in his 1964 study. In each case statistically significant differences between the four ABO blood types were found for one factor of personality. For a second factor the mean blood type differences approached but did not attain statistical significance. Dr. Cattell's variance analysis test results for all fourteen personality factors are presented in Table 18.

Statistical associations between physical and behavioral traits, such as those obtained in these two studies, could indicate linkage between genes determining these traits. (Linked genes are those located on the same chromosome). Since the blood types are completely determined by heredity, linkages would mean that some of the personality trait variance is also determined by heredity. This, of course, has already been established by twin and family studies of personality trait variance. In any event, future research on the relation between blood types and behavioral traits should include family pedigree data.

The statistically significant and near significant differences between ABO blood types, however, were found for different personality factors in the two studies. In Cattell's study of 581 Italian and Italo-American high school students, the significant difference was for Factor I (Tough-minded vs. Tender-minded) and the near significant difference was for Factor J (Self-sufficient vs. Gregarious). In the present study of 547 South Mississippi 'Anglo-Saxon' school children, the only significant difference was Factor Q_4 (Relaxed vs. Tense) and a near significant difference was recorded for Factor H (Shy vs. Venturesome).

The finding of different patterns of associations between physical and behavioral traits in different populations is not unexpected. Osborne and Suddick had previously found different patterns of correlations between mental ability and blood type genes for the White and Negro twins in their study. Each race and population has been moulded by different selective forces. Different genetic linkages could have occurred in the course of evolution in reproductively isolated populations. Consequently, selection for physical traits alone would have produced correlated racial and population differences in mental and behavioral traits.

The noted American geneticist, David C. Rife, (1961), recommended studies of ". . . statistically significant associations

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 18
ANALYSIS OF VARIANCE – COMPARISON OF THE MEAN FACTOR SCORES ON THE CATTELL HIGH SCHOOL PERSONALITY QUESTIONNAIRE BY ABO BLOOD TYPE FOR ITALIAN AND ITALO-AMERICAN STUDENTS
(Cattell, 1964)

Personality factor and description	Main effect	Sum of squares	Degrees of freedom	Mean square	*F* ratio *F* ratio	*P** *P**
Factor A: Outgoing vs. reserved	Blood type	.3885	3	.1295	.7768	>.05
	error	94.6856	568	.1667		
Factor B: More vs. less intelligent	Blood type	.4365	3	.1455	1.0203	>.05
	error	80.9968	568	.1426		
Factor C: Stable vs. emotional	Blood type	.3858	3	.1286	.7503	>.05
	error	97.3552	568	.1714		
Factor D: Impatient vs. placid	Blood type	.1479	3	.0493	.2891	>.05
	error	96.8440	568	.1705		
Factor E: Assertive vs. humble	Blood type	.2262	3	.0754	.4417	>.05
	error	96.9576	568	.1707		
Factor F: Happy-go-lucky vs. sober	Blood type	.0528	3	.0176	1007	>.05
	error	99.2296	568	.1747		
Factor G: Conscientious vs. expedient	Blood type	.4323	3	.1441	.8481	>.05
	error	96.5032	568	.1699		
Factor H: Venturesome vs. shy	Blood type	.1851	3	.0817	.3554	>.05
	error	96.6048	568	.1736		
Factor I: Tender-minded vs. tough-minded	Blood type	3.2286	3	1.0762	6.6350	>.05
	error	92.1036	568	.1622		
Factor J: Self-sufficient vs. gregarious	Blood type	1.1502	3	.3834	2.2835	>.05
	error	95.3672	568	.1679		
Factor O: Apprehensive vs. placid	Blood type	.0846	3	.0282	.1720	>.05
	error	93.1520	568	.1640		
Factor Q_2: Self-sufficient vs. group-tied	Blood type	.0303	3	.0101	.0584	>.05
	error	98.2072	568	.1729		
Factor Q_3: Controlled vs. casual	Blood type	.2061	3	.0687	.4034	>.05
	error	96.7304	568	.1703		
Factor Q_4: Tense vs. relaxed	Blood type	.8250	3	.2750	1.6301	>.05
	error	95.8216	568	.1687		

* For significance at the $P < .01$ level, $F \geq 3.83$; for significance at the $P < .05$ level, $F \geq 2.62$.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

between physical variations with high heritabilities and variations in other traits whose possisible heritabilities were hitherto unknown." If such associations were found, this would be "indicative of linkage." It would further provide "very strong evidence that both of the associated traits are inherited." (66) In his own study of 135 Cape Coloreds (a racially mixed population of Bushmen, Hottentots, Malays, and European Whites), Rife found a significant association between ridge counts on the fingers and the ability to distinguish correctly between three small weights. (67)

Dr. Rife also recommended surveys of recent hybrid populations from diverse ancestral races in such linkage studies. He believed the probability of finding such physical-behavioral correlates to be much higher in hybrid populations due to their greater genetic disequilibrium. This may account for the higher correlates between mental ability and blood type genes in Osborne's sample of American Negroes – a recent hybrid population – as compared to his sample of American Whites.

In any event, the results obtained here and in the studies by Cattell, Osborne, and Gibson indicate that further research is warranted on the association between blood types and behavioral traits. The U.S. Armed Forces have for many years blood-typed new recruits for the ABO and Rh systems, administered a test of mental ability, and classified the subjects by race. Should these data be accessible to research workers, then investigations of some of the possible blood type-behavioral trait correlates could be conducted on large-scale samples. It should also prove worthwhile to extend the research initiated by Osborne and Suddick to much larger samples and to samples of subjects from additional racial and population groups. In this case, ability and personality tests could be administered to subjects who had been blood-typed for ten or more blood groups. Then, multiple linear regression equations could be calculated with the factors of mental ability and personality

(66) David C. Rife
1961 "A research Proposal for UNESCO," *The Mankind Quarterly*, Vol. 2, pp. 128-131.

(67) David C. Rife
1954 "Populations of Hybrid Origin as Source Material for the Detection of Linkage," *American Journal of Human Genetics*, Vol. 6, pp. 26-33.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

as the dependent variables and blood type genes as the independent variables.

Summary

In the fall of 1975 an anthropological and psychological study was initiated of more than 1,000 school children of predominantly 'Anglo-Saxon' origin at three private academies in the southern Mississippi region of the U.S.A. Anthropometric data, pigmentation measures, dermatoglyphic data, serological data, and measures of intelligence and personality were obtained from the subjects. For the 646 students blood-typed for the ABO system, the combined distribution of phenotypes was: O = 46.0%, A = 42.7%, B = 7.6%, and AB = 3.7%. This ABO distribution is virtually identical with that found in central, southern, and eastern England and indicates a predominantly English origin of the subjects.

For 547 of the 646 subjects blood-typed for the ABO system, scores on the Cattell multi-factor personality questionnaires were also available. This permitted a study of the relation between ABO blood type and factor of personality. The statistical significance of the differences between the four ABO blood types on fifteen factors of personality was tested by analysis of variance. On one of the fifteen factors, the F-ratio was significant at the .01 level. This was for Factor Q_4 (Relaxed vs. Tense). Those subjects of blood type O were more "tense" than those of blood types A or B, while those of blood type AB were the most "tense." Differences between the four blood types in mean scores on a second factor – Factor H (Shy vs. Venturesome) – approached but did not attain statistical significance.

These results were strikingly similar to those obtained by Dr. Raymond B. Cattell in his 1964 study of the relation between ABO blood type and factor of personality in a sample of 581 Italian and Italo-American subjects. However, the correlates obtained in his study were for different factors of personality. Such findings, as well as those from studies of the relation between mental ability and blood type genes, would suggest that genetic linkages between physical and behavioral traits may have occurred in the course of evolution. Such linkages would differ in reproductively isolated races and populations. The current evidence of positive correlations is inadequate but is

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sufficient to warrant further investigation of statistical correlations between behavioral traits and blood types. Such studies should comprise a variety of ability and personality tests, more blood group systems, and larger samples obtained from different races and peoples.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SACRED CENTERS AND SYMBOLIC NETWORKS IN SOUTH ASIA

JAMES J. PRESTON

Hindu sacred centers are embedded in complex symbolic networks. Each shrine forms a nexus of ritual, economic, and social activities radiating outward and connecting with other shrines at various levels. These connections are difficult to trace due to the great complexity of the system. The shrines themselves exacerbate this complexity. They range considerably in size, focus of worship, types of devotees, and general ambiance. Permanent spatial and temporal bonds are forged between these shrines through legends, myths, and rites that reinforce and perpetuate shared notions of sacred geography and historical traditions. This system is both fluid and durable with each element forming a crucial part of the overall puzzle. Temples are particularly significant loci, each fitting into the Hindu mosaic in a specific hierarchical position. Thus, linkages among temples are not only horizontal, but vertical – ultimately connecting the most obscure wayside shrines to the large all-South Asian pilgrimage centers.

South Asian specialists have provided numerous binary models to advance the analysis of folk Hinduism, such concepts as Great and Little Traditions, high and low religion, and universalization/particularization among others.(1) These dualistic

* An earlier version of this paper was delivered at the Xth International Congress of Anthropological and Ethnological Sciences, New Delhi, India (December 1978). The author wishes to thank the American Council of Learned Societies and the National Endowment of the Humanities for grant assistance.

The final version of this paper was made possible with the assistance of several scholars who offered constructive suggestions that have been incorporated here. I am particularly indebted to Cora Du Bois, James Freeman, Alan Morinis, Agehananda Bharati, Donald Messerchmidt, and Bhabagrahi Misra.

(1) See Milton Singer, *When a Great Tradition Modernizes* (New York: Praeger Publishers, 1972); Paul Hiebert, *Konduru* (Minneapolis: University of Minnesota Press, 1971); and McKim Marriott, "Little Communities in an Indigenous Civilization," in *Village India*, ed. McKim Marriott (Chicago: The University of Chicago Press, 1955).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

categories have yielded some intriguing research, but ultimately they are misleading; for Hinduism is not organized along simple lines of opposition between categories invented by Western scholars. Such binary concepts distract from the unitary character of Hinduism. Despite its myriad subsystems, the hallmark of this seemingly kaleidoscopic religion is its essential ability to weave together widely diverse components. As Babb notes, Hinduism is clearly a unified whole:

> The religious life of the Hindus presents itself initially as a bewildering clutter, a quiltwork of seemingly unrelated rites, ideas, attitudes, and myths. Closer scrutiny, however, yields a very different impression. There are obvious connecting threads — the concern with purity and pollution, the importance of hierarchy, common ritual usages which seem to point to a deeper continuity. The impression of unity is augmented by the fact that the Hindus themselves insist that it is there.(2)

It is impossible to attain a unitary view of Hinduism without an adequate understanding of various levels within the system. The religious network involves both sacred shrines and the many festivals that tie them together. These linkages exist 'horizontally', between shrines at any particular level, and 'vertically', through pilgrimage cycles, fairs, and reciprocal festivals.

Unfortunately little systematic research has been conducted on the role of sacred centers in this multilevel phenomenon. Nor is there an adequate mechanism for classifying these shrines; so that the South Asian specialist is unable to place a particular regional or local variant of Hinduism in a wider framework that spans the entire subcontinent. It is hoped this situation may be partially remedied by the classificatory scheme proposed below.

Classification of Hindu Temples

Several attempts have been made to classify Hindu temples according to their place in a South Asia wide hierarchy.(3)

(2) Lawrence Babb, *The Divine Hierarchy* (New York: Columbia University Press, 1975), p. xv.

(3) The classification scheme presented here is meant to cover the whole of India, Nepal, some of Sri Lanka, and the southern portions of Tibet. The author

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Srinivas was one of the first to distinguish between different levels of Hinduism, referring to them as local, regional, peninsular, and all-India levels.(4) The role of sacred centers in the cultural continuity between rural and urban levels was elaborated eloquently by Redfield and Singer:

> In ancient India, at least, every village and every city had a 'sacred center' with temple, tank, and garden . . . At each of these levels – of household, village, and city – the 'sacred center' provides the forum, the vehicle, and the content for the formation of distinct cultural identities – of families, village, and city.(5)

Four cultural levels for India were formulated later by Cohn and Marriott, including (I) all-India, (II) regional, (III) subregional, and (IV) local.(6) This scheme can be used for the analysis of general cultural diversity, but has not yet been applied specifically to Indian sacred centers.

One of the most comprehensive attempts to classify Hindu temples is Bharati's elaboration on indigenous classifications of *tirthas* and *pithas*. He proposes three levels of pilgrimage centers, including all-India, regional, and sectarian temples. Bharati contends that ". . . every shrine is a center of pilgrimage for some."(7) This stretches the term pilgrimage too far. Countless small temples throughout the subcontinent have little to do with pilgrimage. These shrines are usually less glamorous than pilgrimage temples and are patronized by only a handful of local devotees. It would be misleading to treat them as part of the larger pilgrimage cycles of the subcontinent. Bharati's classification is too loosely defined, and is consequently inadequate as a comprehensive instrument for the analysis of

is indebted to Professor Donald Messerschmidt (Washington State University) for encouragement to extend the scope of this classification to most of the subcontinent beyond India.

(4) M.N. Srinivas, *Religion and Society among the Coorgs of South India* (London: Asia Publishing House, 1952).

(5) Robert Redfield and Milton Singer, "The Cultural Role of Cities," *Economic Development and Cultural Change* 3 (1954), p. 67.

(6) Bernard Cohn and McKim Marriott, "Networks and Centers in the Integration of Indian Civilization," *Journal of Social Research*, 1, No. 1 (1958), p. 1-9.

(7) Agehananda Bharati, "Pilgrimage in the Indian Tradition," *History of Religions*, 3, No. 1 (1963), p. 135-167; and Agehananda Bharati, "Pilgrimage Sites and Indian Civilization," in *Chapters in Indian Civilization*, ed. Joseph W. Elder, (Dubuque, Iowa: Kendall/Hunt Publishing Co., 1970), I. pp. 85-126.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Hindu sacred centers.

Despite this shortcoming, Bharati's work has yielded valuable insights about different purposes served by shrines located at various levels in the hierarchy. He notes, for instance, ". . . an inverse correlation between the all-India importance of a temple and its deity, and the degree of its specialization."(8) Bhardwaj substantiates this observation through a well documented study of pilgrimage shrines in north India.(9) While pilgrims attend all-India shrines for general purification, merit and salvation, regional and local shrines are visited for more particular reasons, depending on the specialty of the deity. He found that regional goddess temples, for instance, are mostly attended by pilgrims who desire fertility, abundance, prosperity, and other personal boons from the deity.(10) Bhardwaj is aware of the lack of a comprehensive scheme for distinguishing between different levels in the hierarchy. In an admirable effort to correct for this omission he suggests five categories of sacred places: 1) pan-Hindu, 2) supraregional, 3) regional, 4) subregional, and 5) local.(11) Unfortunately he leaves these categories undefined(12)

Thus, South Asian specialists continue to be perplexed by the problem of levels. The ethnographer or Indologist has no way of placing his study of a particular shrine within the wider matrix of religious and social institutions in the subcontinent. Nor can network analysis proceed in a vacuum. Social and ritual networks must be understood both in terms of horizontal and vertical levels in the overall system. The social, economic, and ritual networks of the subcontinent are multidimensional, spanning different levels of socio-cultural integration. For instance, in the case of folk Hinduism, similar rites may have different

(8) *Ibid*, p. 94.

(9) Surinder Bhardwaj, *Hindu Places of Pilgrimage* (Berkeley: University of California Press, 1973), pp. 158 & 162.

(10) Lawrence Babb also observes that deities concerned with human welfare have wide appeal at larger temples, while local deities are increasingly more specialized at lower levels in the system. See Babb, pp. 185-189.

(11) Bhardwaj, pp. 146 & 226.

(12) Burton Stein, "Goddess Temples in Tamil Country, 1300-1750," unpublished paper 1974, surveyed over 10,000 temples in an effort to trace patterns of historical change. No clear classification system emerges out of this work either. Lawrence Babb does a superb job of outlining the hierarchy of temples in Chhattisgarh (Madhya Pradesh), but offers no workable scheme useful for other investigators, pp. 185-189.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

meanings depending on their relative locations in the hierarchy. Until we have a better understanding of these levels, network analysis will remain two dimensional.

It is not sufficient to trace the interconnections between institutions, villages, and urban centers. We also need to know how these connections become transformed, embellished, or reinterpreted at different levels in the system. One place to start is at the institutional base of Hinduism which is composed of a great variety of shrines. It is proposed here that each individual sacred center is connected to a series of shrines of greater and lesser complexity along a continuum. No temple stands alone; each forms a node in a vast multifaceted web.

A few cautionary notes are in order here. The following classificatory scheme is not intended as an *ideal typology* of Hindu temples. Instead, it is conceived to be a heuristic device for placing parts of the system into a larger contextual frame of reference. Hinduism is much too diverse and complex to warrant any rigid typology. Nor is this scheme intended to suggest the relative sacrality of temples; the size or location of a shrine has little to do with its religious importance.(13) Also it should be noted that the complexion of Hinduism varies considerably from one region of the subcontinent to another. Thus, one would expect to find certain significant regional variations in the hierarchical arrangement of temples, as well as in the relationship of one level to another. This is not to suggest it is impossible to construct a South Asia wide classificatory scheme. The major contention of this paper is that there is sufficient unity within the overall pattern of Hinduism to warrant the kind of scheme attempted here.

Numerous criteria can be employed to place a shrine within a classificatory scheme for Hindu sacred centers. The most useful would include a temple's scope of geographic influence, its ritual style, the types of worshippers who attended it, its historical and mythological significance as a site, and its relative position in the overall pattern of ritual networks. Also significant

(13) This same point has also been made by Bharati, "Pilgrimage Sites,"Pilgrimage Sites," p. 124 and Bhardwaj, p. 97. Nor does distribution of population seem to be an indicator of where to expect pilgrimage shrines. Some heavily populated areas may have no major holy places, as in South Gujarat. See David E. Sopher, "Pilgrim Circulation in Gujarat," *The Geographical Review*, 58, No. 3 (1968), p. 407.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

are the various ramifications of a shrine within its socioreligious context: What needs does it satisfy among its devotees? How does it contribute to the economy of the locality? How are different castes connected to its festival cycle?

The following scheme is based on a temple survey conducted in Orissa (1973),(14) but also draws heavily on a wider corpus of information on temples from research conducted by other investigators in different parts of the subcontinent. Table I defines six levels of South Asian Hindu temples. Each subcategory represents types of shrines found at a specific level in the system. These subcategories are elaborated in Tables II through VI. Shrines that tend to occur at several levels are included in Table VII.

Despite its limitations, the scheme presented here is offered as a point of departure for refining methods of analysis. While it is recognized that some of the subcategories of shrines presented in this scheme may be found at several levels in the system, each category has been placed at the level where it occurs most frequently. There is nothing incongruous about the fact that shrines at the all-South Asian and regional levels intersect several levels for different purposes. This helps to make them lasting, viable institutions. In spite of this occasional overlapping, each category of shrines enumerated here clearly fits into one level more accurately than another. For instance, the fact that many of the all-South Asian shrines have local, district and regional components need not detract from their *primary role* at the highest level in the religious network. Thus, this classificatory scheme is deliberately designed to acknowledge and incorporate the multi-dimensional nature of the phenomena at hand, while focusing specifically on the *primary role* of each institution. It is a model meant to be used as a frame of reference for comparison and prediction, not as an ideal description of the actual reality. No doubt such models increase in utility the closer they approximate the phenomena they are intended to simulate. However, the significant point to remember, is that we are presently without any adequate, well elaborated, and systematic methodology for the analysis of

(14) See James J. Preston, "Goddess Temples in Orissa: An Anthropological Survey," in *Religion in Modern India*, ed. Giri Raj Gupta (New Delhi: Vikas Publishers, 1979).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

different levels within folk Hinduism.

Some sacred centers occur invariably throughout the entire religious network at many different levels. Such multilevel shrines have been ranked separately in the scheme and include the following subcategories: 1) multipurpose shrines, 2) special purpose shrines, 3) *mela* shrines, 4) marker shrines, 5) mobile shrines, and 6) sacred niches (all presented in Table VII). There are two kinds of multilevel shrines: 1) *variegated* and 2) *connective. Variegated multilevel shrines* tend to occupy central locations in the temple hierarchy, as nodes in the religious network. These shrines incorporate a variety of major currents in Hinduism by weaving together a variegated pattern of themes. The temple of Biraja at Jajpur in Orissa is an excellent example of a variegated multilevel shrine. Here the goddess incorporates five main sects of Orissan Hinduism: Vaisnava, Saiva, Shakta, Ganapatya, and Saura. The temple has both a *trisula* (Saiva) and a *chakra* (Vaisnava) at the top. Biraja is considered to be simultaneously the Great Mother and Lord Jagannath; she is also both vegetarian and non-vegetarian. (Goat sacrifices are conducted within the temple compound, but with the doors of the main shrine closed.)(38) Thus, multilevel variegated shrines such as this one incorporate numerous divergent sectarian traditions through a process of symbolic inclusiveness. Multipurpose shrines, *mela* shrines, and sacred niches can be classified as variegated forms of multilevel shrines. The *connective variety* of multi-level shrines are much more numerous. These shrines form part of the connective tissue that knits the temple hierarchy together. They are found at various levels in the system, and help to *connect* these levels together by 1) demarcating specific places in the sacred geography that form portions of a larger mythic tradition (marker shrines), 2) fulfilling special needs of devotees within a region (special purpose shrines such as those of disease deities, fishing communities, etc.), 3) and moving between villages, towns, or neighborhoods (mobile shrines).

Multilevel sacred centers differ from others with regard to their primary role in the overall system. While some religious institutions (like ethnic shrines) tend to be perpetuated and maintained at one level, others link various levels together and

(38) See Preston, "Goddess Temples."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

even, in some cases, alternate from one time of the year to another in terms of scope of influence. Multilevel shrines may also have more than one focus of worship.(39) The composite and multifocal purpose of such sacred centers maximizes the participation of devotees, either simultaneously or sequentially, in various levels of social, psychological, and sacral experience. Like carnival in Latin America, such multilevel phenomena present the participant with a range of experiences that ultimately culminate in a major unifying event. At first he may wander in and out of major or subordinate events, but ultimately these all lead to a primary focus that ties the divergent elements together in a dominant theme.

This variegated nature of some multilevel sacred centers can be best illustrated in the case of *mela* temples. While *melas* (fairs) often have religious overtones, some are more secular than others. As Sopher notes ". . . travel to *melas* may be classed as religious, non-religious, or both, depending on the character of the *mela* and the informant's statement."(40) Temples associated with *melas* are sometimes independent of the event, and would not be classified in the present scheme as multilevel shrines. Others rely considerably on the large number of devotees attracted whenever the *mela* takes place during the year. These shrines are dependent on the *mela* for survival and play a significant role in the ritual activities associated with the event. Such sacred centers of this kind which have been classified as *mela* temples may expand or contract in scope of influence, depending on numerous factors such as the popularity of the *mela* at different historical periods, its locus in the regional, district or local sacred geography, and the extent of confounding variables relating the *mela* to certain sects, historical personages, or mythic traditions. Sometimes *mela* temples are temporary structures, specifically built for the duration of the *mela*. Others are permanent sacred centers, attended poorly during most of the year, but expanding their clientele extensively during the course of the fair. *Melas* occur

(39) The Turners have observed the same multifocal quality of certain European pilgrimage centers, such as St. Patrick's Purgatory in Ireland, *Image and Pilgrimage*, p. 113.

(40) Sopher, 393 & 398.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

at all levels in the ritual network, connecting social, economic and symbolic dimensions of life into the larger framework of Hinduism.

Mahadev temple in Cuttack city, Orissa, is best classified as a *mela* temple. This shrine, located on the banks of the Mahanadi river in Orissa's largest city, has an average attendance of 10 to 15 persons per day during most of the year. Mahadev temple becomes the center of a storm of activity at the time of the *mela*, held here for five days every year, when several thousand persons attend services. Hundreds of people spend the night in the temple's *dharmasala* and participate in both cultural and religious ceremonies. The fair attracts approximately 100,000 persons from the surrounding region and a few visitors from as far away as Calcutta.

The *mela* held on the fairgrounds adjacent to Mahadev temple has a strong economic and commercial component. There are hundreds of stalls selling food, special sweets, and drinks. Every major neighborhood of merchants is represented. Furniture, silver jewelry, and many different cottage industries are featured with vendors from villages outside of Cuttack city selling numerous items. Government and large corporations have stalls displaying various aspects of Orissa's economic development. There are many forms of entertainment, including magic shows and dramatic performances of the *Mahabharata*.

The focus of the *mela* occurs on the day of *Bali Yatra*, a festival celebrated throughout coastal Orissa. At dawn thousands of small toy boats containing ghee lamps are floated on the river. It is said that this rite commemorates earlier trade by sea with Southeast Asia. Fireworks are set off near the water and there is a strong festive atmosphere. At this time large numbers of people attend Mahadev temple, for it is believed by some participants that Chaitanya, the Bengali saint, crossed the Mahanadi river here on his way to Puri. Thus, this *mela* is associated with two separate traditions, one cultural (*Bali Yatra*), the other religious (commemorating Chaitanya's legendary visit to this site). Here two mythic traditions converge. Mahadev temple benefits from the *mela* which has strong religious, cultural, and commercial overtones. The many beggars, merchants, celebrants, entertainers, and fun-seekers who attend the *mela* transform this quiet local shrine and its picturesque setting into a center of festive activity that attracts people from

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

both district and regional levels. Thus, Mahadev temple must be classified, like so many other *mela* temples in the subcontinent, as a multilevel shrine, operating at various levels within the system on different occasions.

Vertical Bonds in the Hindu Religious System

Now that six different levels of Hindu temples (and numerous subcategories) have been defined, it is appropriate to discuss the connective relationships between these levels. Two vital questions are immediately evident: 1) How are the levels linked together vertically? 2) What causes the transformation of a temple as it evolves from one level in the hierarchy to another? Vertical bonds are maintained between shrines at different levels in the system through the institution of pilgrimage, commerce and trade, reciprocal rites between shrines, the perpetuation of historic and mythic traditions, wandering mendicants, and caste occupations.

The most important of these linkages between levels is the many major and minor pilgrimage cycles in the subcontinent. Bharati has written extensively on pilgrimage, noting that it has both real and metaphorical implications:

> What is common to all pilgrimage anywhere is the hope for and the belief in some sort of merit, some sort of achievement which cannot be attained by other means; but even the statement that all pilgrimage entails physical movement, travel, circumambulation, etc., which sounds like a tautology, has to be modified, as Indian terms for pilgrimage are often to be understood metaphorically, as when a *yogi* (a contemplative adept) 'performs' a 'pilgrimage' (*yatra*) to the seven 'shrines' (*tirtha*) by a specific type of meditation, during which he stays put, physically.(41)

Technically Bharati is correct in reminding us that pilgrimage extends beyond the actual circulation of people among shrines; but a discussion of the metaphorical dimension of pilgrimage is outside the scope of this paper.

Pilgrimage extends individuals beyond the parochial (domestic and local) levels of life into wider spheres of religious

(41) Bharati, "Pilgrimage Sites," p. 85.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

confluence at district, regional, and all South-Asian levels. Aziz considers pilgrimage to be an encounter between the individual and his geography, ". . . a cultural mode by which people express their personal identification with the continent . . . the means by which geography is made a part of their psyche and their culture." (42) Pilgrimage is consequently more than a social and cultural phenomenon, and for some participants it is also a process of withdrawal from daily social engagement in order to reidentify with the earth and cosmos.(43) It is a dual process, for though the individual is linked through pilgrimage to higher and higher levels in the larger religious network, he also returns to his home village with new ideas that influence the local tradition. Today, with increased opportunities for travel, pilgrimage cycles appear to be widening and becoming available to more people. This would imply a more rapid rate of transfusion of religious customs throughout the subcontinent, but sufficient research has not been completed to prove this point.

What exactly is transmitted by pilgrimage between levels along the continuum of Hindu sacred centers? More is involved than a dialectic between the grassroots of folk Hinduism and the classical Sanskritic tradition. Not only individuals, but castes and classes of persons, who may otherwise be isolated from each other, are mixed together as they journey upward and outward from localities, then return through the pilgrimage cycle. Of equal importance is a large amount of trade and commerce reinforced by the intricate network of festivals linked into pilgrimage.(44) Turner has observed a similar economic component in Christian pilgrimage:

> A multitude of pilgrim routes converge on a great shrine, each route lined with sacred way stations (chapels, abbeys, shrines, etc.) and such service institutions as hospices, hospitals, inns, markets, and taverns. The major shrines exert a magnetic effect on the whole communications and transportation system, charging with sacredness many of

(42) Barbara Aziz, "Quest and the Meaning of Pilgrimage," unpublished paper read at the Xth International Congress of Anthropological and Ethnological Sciences, New Delhi, India, December, 1978, pp. 17 & 18.

(43) *Ibid.*, p. 18.

(44) The economic side of pilgrimage and the patronage of temples has received surprisingly little attention from South Asian specialists.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

its features, and fostering the construction of sacred and secular edifices to serve the needs of the human stream passing through it. Pilgrimage centers in fact generate a socioeconomic "field;" they have a kind of social "entelechy."(45)

Thus, pilgrimage becomes a mechanism by which an individual or group can make a journey in societies with few opportunities for economic movement away from limited circles of family, friends and neighbors.(46) Through pilgrimage the individual's sense of separate ethnicity is reinforced as he comes in contact with diverse languages and customs, but finally this experience of separateness is dissolved in the hierarchy. People at one level, for instance, gain a sense of uniqueness by identifying with a particular local tutelary deity, at another level (such as regional or all-South Asian) this uniqueness is dissolved into the larger religious whole, which for a time, suspends narrower, more parochial sentiments. As the pilgrim gains merit as he journeys upward in the network of Hindu sacred centers, he can simultaneously identify with local roots, while also transcending them. This dual process was well understood by the rajas, who sought to extend secular authority through "universalizing" a local tutelary deity, and northern Brahmins were frequently imported into Orissa from Kanya Kubja to add luster and respectability to the local kingdoms. This example is one of many which can be found to illustrate centuries of complementarity between secular and sacred domains, a process which continues today as local shrines become absorbed, transformed, expanded, and reintegrated at higher and higher levels within the network of sacred centers.

Despite its dynamic complexity and flexibility, Hinduism is a stable system. Part of this stability is due to the institution of pilgrimage which like a glue holds together what might otherwise tend to splinter and fragment. There is no rigid or formal ecclesiastical hierarchy in this polymorphic religion. Diverse linguistic, cultural, and mythic components of the system remain intact because of continuous interaction between various levels through the process of pilgrimage circulation. Underlying all of this, of course, is a common principle shared

(45) The Turners, *Image and Pilgrimage*, p. 233 & 234.
(46) *Ibid*, p. 7.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

by every Hindu — *toleration for the diversity of paths to the one ultimate reality*. Syncreticism is attained through weaving together divergent religious themes into constantly finer patterns of symbolic integration as the pilgrim circulates throughout the system. This capacity of Hinduism to sustain itself by allowing for parallel existence between disparate world views (47) is reflected in the manner by which diverse sacred shrines are entwined together as a unified network.

What about other links within the system, besides those provided by pilgrimage? Once again tolerance for diversity provides a key. Though certain consistent prototypes for religious behavior permeate folk Hinduism at every level, there is much room for embellishment and elaboration. Unique local versions of the classical Hindu scriptures are found in many regions of South Asia, where they are perpetuated in both written vernaculars and oral traditions. The Indian religious mind is averse to any sort of formal or rigid institutionalization.(48) There is no single dogmatic piece of literature rooted in a sacralized history as in the Christian biblical tradition. Every caste and subcaste can project its own life conditions into local ritual and mythic traditions. Furthermore, the priestly castes at the larger sacred centers, rather than suppressing and ridiculing these diverse parochial elements, tend to assimilate them under an elaborate set of overarching myths and rites. The classical Sanskrit literature reinforces this assimilation by providing a broad range of minor folk themes, woven into the classical texts, and freely elaborated at local and district levels.

Finally, there are strong caste links connecting different levels of the system together. Brahmins are not the only castes responsible for providing links between levels in the hierarchy. Many castes are involved with the yearly cycle of temple festivals. Through intermarriage, the visiting of kin, and the sharing of mutual obligations, different castes interact at various levels; ultimately tying domestic, local, district, regional, and all-South Asian shrines into a continuous social and religious network. Orissa's famous Jagannath temple illustrates this

(47) David M. Miller and Dorothy C. Wertz, *Hindu Monastic Life* (Montreal: McGill-Queen's University Press, 1976), p. 200.

(48) Bharati, "Pilgrimage in the Indian Tradition," p. 150.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE I

CLASSIFICATION OF HINDU SHRINES IN SOUTH ASIA (15)

LEVEL	SUBCATEGORIES	DEFINITION
I. All-South Asian	1) temple cities, 2) major pilgrimage shrines, 3) ancillary shrines, and 4) interstitial shrines.	Attract people from all parts of the subcontinent, are noted in the classical Hindu scriptures and are usually located along the main pilgrimage routes.(16)
II. Regional	1) sectarian temples, 2) ethnic shrines, 3) monastic shrines, and 4) founder shrines.	Bring together people sharing common interests within a limited, though relatively large part of South Asia. Regional shrines typically attract members of particular sects, language groups, or followers of a holy person.
III. District (subregional)	1) temple-villages, 2) tutelary shrines, 3) urban commercial temples, and 4) bazaar shrines.	Link local villages, castes, kin, and economic groups to a common sacred geography. These temples are usually within a day's journey and may be easily attended for common purposes during the usual weekly circulation of people within an area.

IV. Local	1) village guardian temples, 2) caste temples, 3) neighborhood shrines, and 4) nature shrines.	Help fulfill the specific daily needs of devotees, demarcate a local sacred geography, and act as points of reference for villages or neighborhoods.
V. Domestic	1) household shrines, and 2) domestic festival shrines.	A focus for the religious life of the household or joint family. Usually found in the corner of a room or as a separate shrine set aside in the house or compound with a room of its own.
VI. Multilevel	1) multipurpose shrines, 2) special purpose shrines, 3) *mela* temples, 4) marker shrines 5) mobile shrines, and 6) sacred niches.	Link the five previous levels together by permeating the whole system. Multilevel shrines specialize in connecting divergent myths, rites, castes, and economic units within the system.

(15) Most of the shrines represented in this sheme can be found in both urban and rural settings. Only a few temple categories exist exclusively in urban areas, such as bazaar shrines and urban commercial temples.

(16) Unlike some of the main pilgrimage centers in Christianity that could be classified as "universal shrines" attracting a large international component of pilgrims, all-South Asian temples seldom attract devotees from outside the subcontinent. Thus, the universal level in Christianity, such as at Mexico's internationally famous shrine of the Virgin of Guadalupe, is absent in the Hindu system. For levels of Christian shrines see Victor and Edith Turner, *Image and Pilgrimage in Christian Culture* (New York: Columbia University Press, 1978).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE II

ALL-SOUTH ASIAN SHRINES (17)
(Level I)

SUBCATEGORIES	CHARACTERISITCS	EXAMPLES
1. Temple Cities	A complex of temples forming the nucleus of a sacred city. They are often centers of religious learning and usually have very encient roots. Temple cities are multifocal centers involving several deities. The location is invariably a crucial market place and ties into the sacred literaure. People attend largely for general purposes, such as purification. All caste Hindus attend from throughout the subcontinent.	Varanasi, Gaya, Kancipuram, Dvaraka, Ayodhya, Mathura, Ujjain, and Hardwar.
2. Major Pilgrimage Shrines	These are large sanctuaries which form *main* foci for pilgrimage in the subcontinent. They are usually found at important sites in the sacred geography (mountains, sea shore, or at the confluence of important rivers) and attract both urban as well as rural populations. Though pilgrims may seek answers to personal problems at these shrines, most people attend for *darsana* of the famous deity. The pilgrimage itself is purifying and meritorious. All caste Hindus attend from throughout South Asia, though higher castes tend to have more access than others.	Badrinath, Jagannath (Puri), Kedarnath, Amarnath, Rameswaram, Tirupati, Pashupatinath, and Muktinath (Himalaya)

3. Ancillary Shrines (18)	Ancillary shrines are associated with major pilgrimage temples. They surround the main focus of worship and may be visited by people for special purposes or attended as part of the general pilgrimage. Virtually all temples have niches. Ancillary shrines are *elaborate* niches at the All-South Asian level where they take on special religious importance. An ancillary deity may play a significant role in the mythology associated with the main deity. These shrines are visited by a large proportion of pilgrims.	At Jagannath temple (Puri) pilgrims visit the ancillary shrines of Subhadra and Balabadra, sister and brother of Lord Jagannath. The shrine of a god's *consort* is usually attended by pilgrims because of certain special attributes of the deity. Bimala, consort of Jagannath, is a case in point.(19)
4. Interstitial Shrines (20)	Interstitial shrines are located along the main pilgrimage routes in the subcontinent. These are tied into the sacred geography as places where divine persons once visited as they journeyed from one part of the subcontinent to another. Although interstitial shrines attract pilgrims from all over the subcontinent at certain times of year, at other times they are supported by regional or local devotees.	Hardwar and Gangotri are often visited on the way to Badrinath. Numerous other examples could be cited in other parts of the subcontinent.(21)

(17) David Sopher observes that large temples in South India do not tend to attract north Indians, p. 410. The same point is made by Agehananda Bharati, "Pilgrimage Sites," pp. 120 & 121. Still, many shrines in South India are known throughout the subcontinent and should be classified at the All-South Asian level.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

(18) A term borrowed from Bharati, "Pilgrimage Sites," p. 113.

(19) According to the Turners many Christian pilgrimage centers have a *composite* nature; containing not one, but a sequence of shrines. See Victor and Edith Turner, *Image and Pilgrimage*, p. 233. Many large pilgrimage places in South Asia are composite complexes of temples. A main temple, plus surrounding ancillary shrines becomes a composite unit of sacred territory.

(20) Interstitial shrines may also be called wayside shrines. They are often, though not always, associated with way stations (such as inns, markets, dharmasals along the pilgrim route.

(21) Bharati notes the relationship between interstitial shrines and rites of purification during pilgrimage: "After the bath a set number of shrines, tanks, mounds or other relevant landmarks are visited, and the priest-guide chants the necessary incantations, as the pilgrim stands by in a reverential mood" ("Pilgrimage Sites," p. 94).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE III

REGIONAL SHRINES
(Level 2)

SUBCATEGORIES	CHARACTERISTICS	EXAMPLES
1. Sectarian Temples	These are usually large shrines attracting mostly members of a particular Hindu sect. Sectarian temples always follow the associated rites related to one dominant deity. Many tantric temples fall into this category.	Cidambaram, Kamakhya, and Brindavan.
2. Ethnic Shrines (22)	Shrines housing deities which symbolize the ethnic identity of a group of people. These are usually very popular and highly attended by a wide variety of Hindus within a region. Some of these temples also attract pilgrims at the all-South Asian level. Ethnic shrines are frequently, though not exclusively, goddess temples.(23)	Kanya Kumari, Ma Paudi, Murukan, Kalighat, and Madurai.
3. Monastic Shrines	Monasteries usually attract monks from a particular region. Though the shrines associated with monasteries are largely used by ascetics, pilgrims who stay in monastic guest houses may also attend services. Frequently public festivals will be sponsored by a monastery. These celebrations often attract a wide range of devotees.	Sringeri, Puri, and Bhubaneswar.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

4. Founder Shrines (24)	Closely related to monastic shrines and sectarian temples are shrines associated with the establishment of a particular sect or holy person. These often attract persons of various sects because of the founder's popularity. They may occasionally attract pilgrims from all over South Asia.	Dakineswar Kali (associated with Ramakrishna).

(22) See Fred W. Clothey, "Pilgrimage Centers in the Tamil Cultus of Murukan," *Journal of the American Academy of Religion*, 40, No. 1 (1972), pp. 72-95, for an excellent description of six pilgrimage centers in South India. Though the cult of Murukan described by Clothey is ethnic, it has *both* Sanskrit and Tamil roots which complement one another. "Murukan's current popularity in small measure is derived from the fact that the god has been so thoroughly identified with Tamil Nadu. Tamil Nadu is the god's domain; the six centers are *cakras* which sacralize the region. In stressing the Tamilness of Murukan, his devotees find a sense of their identity as Tamilians." (pp. 93 & 94).

(23) An interesting comparison can be made here with regional level Christian shrines in Mexico where Our Lady of Zapopan is a focus of unity for the Hispanic, criollo, mestizo, and Indian populations of the state of Jalisco (The Turners, *Image and Pilgrimage*, p. 53). Also, ethnic shrines are found throughout world Christianity. "Within each country one can detect a loose hierarchy, or at least a rough scale of priorities among its shrines. In plural societies, each linguistic or ethnic group has its favored pilgrimage places" (*Ibid*, p. 6). Ethnic shrines exist in many parts of South Asia, though in some places (such as Gujarat) they are conspicuoulsy absent. David Sopher, p. 410.

(24) The Turners refer to shrines directly related to the life of a founder and his followers as "prototypical" *Ibid*, p. 163. This terminology is not appropriate in the South Asian context because what we have called "founder shrines" here are not necessarily places to commemorate the events in the life of the founder, as would be the case for Christian pilgrimage centers in Palestine where Jesus's life, mission, and death are recalled by pilgrims.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE IV

DISTRICT SHRINES*
(Level 3)

SUBCATEGORIES	CHARACTERISTICS	EXAMPLES
1. Temple-Villages	These are villages entirely structured around the activities of an important district temple. In a way the village and the temple are inseparable, as the village is primarily composed of castes who receive land or paddy in return for services rendered to the temple. These temples ". . . dominate the economic, political, and ritual life of the villagers,"(25) Temple-villages attract a wide range of district devotees from many castes. They are frequently associated with a major market place. The myths and rites surrounding the deity featured in a temple-village are somewhat unique. This creates an impression of special reverence and importance for the shrine and its surrounding village. Thus, a temple-village is not only a structural composite that integrates different social groups within a single village, it is also a symbolic nexus of myths and rites which extend beyond the village into the surrounding district – demarcating that area with a certain degree of special sanctity and uniformity of religious customs.(26)	Sarala (Orissa) and Kapileshwar (Orissa).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

2. Tutelary Shrines	Many of the rajas of South Asia had a tutelary deity (often a goddess). The temple of this deity was located either within the palace, or more frequently in a strategic location at the center of the kingdom. These temples still exist in parts of the subcontinent and remain important foci of common rites shared at the district level. Some tutelary shrines have developed into large institutions, attracting pilgrims from the surrounding region. Others have lost their tutelary significance and have become transformed into special purpose shrines.	Bhattarika (Orissa).(27)
3. Urban Commercial Temples	These temples do not depend on income from rented land for support. They are linked into the commercial economy of an urban center and draw large numbers of devotees from the surrounding district. Their ritual activities are focused on modern popular folk festivals that have expanded in recent years in many of India's cities.	Chandi (Cuttack).(28)
4. Bazaar Shrines	These shrines are usually particular to urban centers. Bazaar shrines attract people from both the local neighborhood and the surrounding district. They thrive on patronage from people engaged in trade. Little research has been conducted on bazaar shrines, despite the fact they are so numerous.	Most bazaars in South Asian cities have several temples that are contiguous to the main center of economic exchange.

* Districts are subregional complexes of villages and urban centers which form relatively tight-knit social, trade, and ritual bonds among the inhabitants. The term does not necessarily refer to political subdivisions.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

(25) James Freeman, *Scarcity and Opportunity in an Indian Village* (Menlo Park, Calif.: Cummings Publishing House, 1977).

(26) I am indebted to Dr. Bhabagrahi Misra who first used the term "temple-village" during personal conversations (1970) related to Orissan temples. James Freeman, "Religious Change in a Hindu Pilgrimage Center," *Review of Religious Research*, 16, No. 2, p. 124, uses the same term with reference to his study of Kapileswar temple in Orissa. However, it has never been defined by anyone.

(27) Most tutelary deities in Tamil Nadu are *amman* or mother goddesses. See Burton Stein, "Goddess Temples."

(28) See James J. Preston, "Commercial Economy of an Urban Temple in India," in *Community, Self, and Identity*, ed. B. Misra and James Preston (The Hague: Mouton Publishers, 1978) and James J. Preston, *Cult of the Goddess* (New Delhi: Vikas Publishers, 1979).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE V

LOCAL SHRINES
(Level 4)

CATEGORIES	CHARACTERISTICS	EXAMPLES
1. Village Guardian Temples	These temples are found in most villages. In south and eastern India village guardian deities tend to be goddesses. Frequently this is the most significant temple in a village, but sometimes the village guardian temple is small and insignificant compared to other shrines. The guardian deity protects the village from disease, natural disasters, and unpleasant outsiders. Patronage is almost exclusively local and varies significantly from village to village.	In south India each village has a guardian deity or *grama devata*.(29)
2. Caste Temples	Clan and caste temples have been noted throughout the subcontinent. These are particularly widespread in South India, attracting ritual homage from most members of a kin group.(30) Non-Brahmin priests may preside at these temples, particularly where a lower caste is affiliated with the shrine. Occasionally these temples attract caste members at the district level.	Untouchable castes often have their own shrines, particularly in villages where they are numerous. Dominant castes have their own temples.(31)

3. Neighborhood Shrines	Most villages, towns, and cities in South Asia have neighborhood shrines. They provide a focus of worship near the home. These shrines are almost exclusively patronized by members of the neighborhood. They may be subsidiary or ancillary to a dominant village or urban temple. In most cases, however, neighborhood shrines provide identity to a group of persons, and demarcate certain characteristics of sacred geography located within the village or town.	Neighborhood shrines thrive in Cuttack (Orissa) during Durga Puja where most celebrations are focused on elaborate rituals performed in the streets of the city.(32)
4. Nature Shrines	These are small, uncovered structures housing a deity associated with the fertility of crops and worshipped by field laborers and landlords. They are linked into a sacred geography, like marker shrines, but are usually of less significance. Nature shrines do not have regular ceremonies. Patronage is confined to a few local persons.	The paddy fields in South Asia are scattered with numerous nature shrines. Also *svayambhu* Siva *lingas* may be found 'growing' in part of a village.(33)

(34) This information on Muktinach was contributed by Dr. Donald Messerschmidt (Washington State University), personal communication.

(35) M.N. Srinivas, *The Remembered Village* (Berkeley: University of California Press, 1976), pp. 19 & 20, describes a division of labor among village deities in terms of their specific utility in the lives of villagers. Special purpose shrines are also found in Christianity. The healing of illness is a major role of pilgrimage shrines. The Turners have called these shrines the "doctors of the poor," *Image and Pilgrimage*, p. 194.

(36) For a description of *melas* and associated temples in a region of Madhya Pradesh see Babb, pp. 64 & 65.

(37) Donald Messerschmidt, personal communication.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE VI

DOMESTIC SHRINES
(Level 5)

CATEGORIES	CHARACTERISTICS	EXAMPLES
1. Household Shrines	Virtually every Hindu household has a room or part of a room set aside for worship. This usually contains the traditional deities. Rituals are performed every day in devout families	Shrines devoted to the family *ista devata*.
2. Domestic Festival	On special ceremonial occasions a priest may be invited into the household to perform holy rites. Either a family member or the priest constructs a special place of worship (often in the courtyard) where the ceremony takes place. Members of the extended family may be invited to participate in these events.	Shrines constructed on special occasions inside the domicile by women during Laksmi Puja.

TABLE VII

MULTILEVEL SHRINES
(Level 6)

SUBCATEGORIES	CHARACTERISTICS	EXAMPLES
I. Multipurpose Shrines*	Hindu temples that have no *primary role* in the religious system, but are clearly multidimensional in focus can be classified as multipurpose shrines. Many of the large pilgrimage shrines in the subcontinent simultaneously integrate various elements of ritual, social, and economic activity among devotees. These shrines have no single *primary role* in the religious system. Nor are all multipurpose shrines large sacred centers. They may be found at any level. It would not be accurate to maintain that all Hindu shrines are multipurpose. Most sacred centers clearly demonstrate a *primary role*, despite the not infrequent additional secondary or minor purposes they serve.	Muktinath (Nepal Himalaya) simultaneously attracts pilgrims from throughout the subcontinent, is associated with an important *mela*, and serves as a focus of Nepali ethnic identity. Pilgrimage to this shrine serves several purposes of equal importance — ethnicity, trade and commerce, fun, and religious ritual.[34]

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

2. Special Purpose** Shrines	Perhaps the most ubiquitous temples in the subcontinent are those devoted to special purposes. These are often goddess temples associated with the cure of illnesses, fertility, increased crop yield, treatment of bovine diseases, etc. Special purpose shrines attract large numbers of persons from all castes and are usually located within a day's journey. A survey of any particular district in South Asia would yield a wide variety of special purpose shrines available to the population. The specialty featured usually matches the needs of people living in a particular area.	Certain goddesses are well known for their ability to cure diseases (Sitala and Mangala).(35)
3. Mela Temples*	*Melas* (fairs with religious overtones) are found throughout the subcontinent. The temples associated with such *melas* may be either constructed for temporary use or they may be established shrines that sponsor the event. *Melas* may occur each year or every sixth or twelfth year (as in the case of *kumbhamelas*). *Mela* temples revert to a narrower patronage for most of the year. Some *melas* attract people from all over the subcontinent (such as those held at Allahabad, Hardwar and Nasik). For the most part, *melas* are regional or district level in scope and have a strong element of commercial trade, with the temple supplying a religious framework for festivals.	Mahadev temple (Cuttack), Sonepur (Bihar) and Gangasagar (Bengal).(36)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

4. Marker Shrines**	The entire subcontinent is richly endowed with multiple levels of sacred geography. Each district has its sacred rivers, mountains, caves, lakes, and ponds that are woven into an intricate pattern of folklore and mythology. These places are almost inevitably endowed with marker shrines devoted to an associated deity. Such shrines often become foci for festivals that celebrate and reinforce the mythology which demarcates the sacrality of a particular place.	River goddesses are found in many parts of the subcontinent. These are usually marker shrines. Mountain lakes or *dudh pokharis* ("milk lakes") are widespread objects of pilgrimage in the Himalayan regions of South Asia.(37)
5. Mobile Shrines** (temporary)	There are several kinds of mobile shrines found in the practice of folk Hinduism. Temporary shrines are built for festival purposes and carried through village or neighborhood streets. Mobile shrines may be constructed during *Melas*. Often mobile shrines are carried from village to village by wandering mendicants and their followers. Though these shrines attract a local population, they are also found at higher levels in the spectrum of Hindu sacred centers.	Neighborhood women construct temporary shrines on village roadsides during certain festivals.
6. Sacred Niches*	Virtually all shrines in the subcontinent are surrounded by sacred niches. These small sacred centers are often embued with considerable sanctity and personal meaning for devotees. They are found at all levels in Hinduism.	Various niches with incarnations of Vishu, the Sapta Matrikas, and Hanuman are typical.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

* Variegated multilevel shrines; **Connective multilevel shrines. These two varieties are explained later.

(29) Burton Stein, "Devi Shrines and Folk Hinduism in Medieval Tamilnad," in *Studies in the Language and Culture of South Asia*, ed. Edwin Gerow and Margery Lang (Seattle: University of Washington Press), p. 79.

(30) Stein, "Goddess Temples," p. 22.

(31) *Ibid.*, p. 25.

(32) For a discussion of the distribution of *prasad* in neighborhood ceremonies associated with Ganesh (in Madhya Pradesh) see Babb, pp. 62 & 63.

(33) The link between local deities and natural phenomena is evident in most South Asian villages. "Particular locations are frequently identified as an abode of a deity, and are marked with stones, and/or offerings of flowers, food, drinks, and cloth." Robert J. Miller, "Village Religion," in *Lectures in Indian Civilization*, ed. Joseph W. Elder (Dubuque, Iowa: Kendall/Hunt Publishing House), p. 333.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

point. Virtually every temple in Orissa is associated with persons who have either direct or indirect ties with the shrine at Puri. Jagannath temple has a wide variety of castes and subcastes involved in its elaborate rites,(49) whose members intermingle with members of related castes at other Orissan shrines. Also, throughout coastal Orissa, the *mahaprasad* from Jagannath temple is distributed among the surrounding sacred centers by emissaries with kin who live in these regions. Another vertical bond is forged between smaller shrines and the center at Puri through the custom of building small ancillary shrines of Jagannath within the compounds of most Orissan district temples.

We have already noted how vertical connections are established between shrines through pilgrimage circulation, caste ties, and mythic bonds that link lower level temples with those at regional, and in some cases, all-South Asian levels in the hierarchy. Other bonds between levels can be suggested, but these have not been researched sufficiently to provide any clear idea of the extent or type of role they play in the overall system. For instance, wandering mendicants, drama troupes, and tourists are bearers of both religious and cultural traditions that must contribute in some way, as yet undetermined, to the systemic linkages. And though it is quite clear that commercialism enters into the formula in the form of economic bonds established all along the hierarchical continuum of shrines, our knowledge of these factors remains rudimentary. Even more significant is the poverty of good ethnographic studies of Hindu temple complexes. This missing data renders our knowledge of ritual links between levels weak. Everyone who has conducted research in South Asia is aware of connections that extend beyond a particular religious institution, or temple complex, but very few investigators have pursued and sketched out these vital links in the system.(50)

The question asked earlier about how temples evolve from

(49) Non-Brahmin castes play an important role in the services conducted at Jagannath temple. These non-Brahmin temple servants have been noted throughout South Asia. For a discussion of non-Brahmins in south Indian goddess shrines see Stein, "Goddess Temples," p. 28.

(50) Several recent studies are attempting to remedy this situation. See Baidyanath Saraswati, *Kashi: Myth and Reality of a Classical Cultural Tradition* (Simla: Indian Institute of Advanced Study, 1975); Anncharlott Eschmann, et al., *The Cult of*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

one level to another is complex. Most studies of Hindu shrines trace patterns of change within a single institution, with no adequate framework for presenting a comparative analysis of the phenomenon. The role of a temple can only be determined by intensive research, including familiarity with associated pilgrim cycles, studies of devotee profiles, priests, and temple patrons. Such research needs to be conducted on more shrines. The hierarchical model presented here should provide such a point of reference. Once the investigator has determined where the shrine he is studying fits into the larger picture, it will be possible to predict its direction of development. A wide range of such studies should yield enough data to create at least a rough sketch of the Hindu religious network. At present the ethnology of Hinduism is full of gaping holes, with little high level theory, and few attempts to understand the whole system in a single comprehensive framework. The next step to be taken toward this goal is to generate interesting research projects that will 1) fill present glaring ethnographic gaps, 2) perfect a comprehensive temple scheme, and 3) stimulate meaningful hypotheses to be tested empirically.

New Modes for the Analysis of Sacred Centers

It might be argued that the construction of a temple scheme that omits the larger encompassing religious system is a futile exercise. Of course, such an objection would be valid if we were presenting this model of levels in the hierarchy of Hindu sacred centers as a mechanism for revealing the most essential principles operative in Hinduism. While it is correct to assert that the temple hierarchy is only part of a larger encompassing system, this does not preclude an analysis of temples as key institutions – a task that is absolutely essential for the ethnological study of Hinduism. Hopefully a deeper understanding of the institutional base of Hinduism can help to shed light on more fundamental principles that form the essential paradigms of Hindu religious thought.(51)

Jagannath and the Regional Tradition of Orissa (New Delhi: Manohar Publications, 1978); L.P. Vidyarthi, et al., *The Sacred Complex of Kashi: A Microcosm of Indian Civilization* (New Delhi: Concept Publishing Co., 1979); and Surajit Sinha and Baidyanath Saraswati, *Ascetics of Kashi* (Benares: N.K. Bose Memorial Foundation, 1978).

(51) The author wishes to thank Dr. Alan Morinis for pointing out the significant

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Sacred centers are elements in socioreligious fields, connecting people of different regions to a common thread of tradition. Temples cannot be understood as isolates; either spatially separate from other shrines, or without regard to their historical place in the religious system. Thus, the socioreligious field is composed of both temporal and spatial dimensions. The religious network in Hinduism consists of festivals, deities, and sacred centers. Temples are key elements in this network. Though the temple hierarchy outlined here represents only one facet of Hinduism, it is a significant one, because temples provide the religion with an institutional framework for the expression of worship, pilgrimage, and the manipulation of sacred symbols.

The scheme for the analysis of Hindu sacred centers suggests some new directions for future research. For instance, little has been written about middle-range shrines (at the regional and district levels). What role do they play in pilgrimage cycles, as centers of ethnicity, or in reinforcing social and economic relations among castes? Even our knowledge of all-South Asian shrines is scanty and inadequate. What relationship do these major pilgrimage temples share with sacred centers located at lower levels in the network? Also how does a shrine become all-South Asian in scope? Are some temples today evolving in that direction? And why do some all-South Asian level shrines decline? Turning to lower levels in the spectrum, it is evident much work is still to be done, despite numerous studies conducted on local (village) level temples and domestic (household) shrines. How do these fit into the *overall* scheme? Is there, as some scholars have suggested, really such a clear cut opposition between these lower level shrines and those at higher levels? Or is there a degree of continuity throughout the system that escapes us because of missing information? And what are the changes taking place in household shrines as people modernize? Are such changes also being reflected in other temples in the spectrum? Perhaps the most important question has to do with the relationship of the South Asian network of religious institutions to broader problems such as loss of patronage and bankruptcy in some temples. Many

task of determining the paradigmatic principles of Hinduism; no doubt a rather ambitious adventure that extends beyond the scope of any temple scheme.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

shrines have relied on income from "temple lands" which no longer supply sufficient funds to maintain traditional ritual services.(52) What are the implications of new patterns of patronage? More systematic work needs to be done on the role of population density, charismatic popularizers, diligent temple touts, and geographical location as factors in determining the level of a shrine within the hierarchy of Hindu sacred centers. Perhaps the temple scheme presented here will help to focus more discussion and research on these and other problems.

Sacred centers do not include established temples alone. Research needs to be conducted on sacred centers *without* shrines, such as ponds, lakes, rivers, caves, and mountains. Virtually any place in the subcontinent can be designated a sacred center. Since there is no way of approving the sacrality of a place by ecclesiastical means, the system remains fluid and open to free elaboration. It is rare to find such flexibility still extant in the great world religions. A better understanding of the principles that allow such flexibility to flourish could tell us something about how religions have evolved and survived major crises.

None of the research suggested here is possible without a deeper comprehension of the nature of networks. The key to folk Hinduism, as for other phenomena related to complex societies, is to refine our methods for network analysis. Srinivas devotes considerable attention to network analysis as an important method for studying the complexity of South Asian life. He asserts that a network in the subcontinent ". . . ramifies in every direction, and, for all practical purposes, stretches out indefinitely." Economic, political, and ritual networks may operate independently of each other as they ". . . cut across the boundaries of communities and corporate groups, and, in fact, serve to articulate them to wider social systems." (53) Through network analysis the larger patterns of South Asian civilization emerge and become more clear to the investigator. The temple scheme presented here may help to focus the attention of South Asian specialists on important elements that

(52) See James J. Preston, "Commercial Economy."

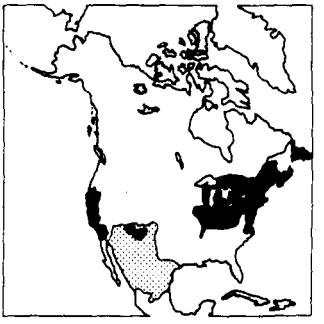
(53) M.N. Srinivas and Andre Beteille, "Networks in Indian Social Structure," *Man*, 64 (1964), pp. 166 & 167.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tie the larger system together, providing a comprehensive framework without which we would continue to flounder in a mass of apparently disconnected data and unorganisable information.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THIRD VOLUME NOW AVAILABLE



Handbook of North American Indians

SMITHSONIAN INSTITUTION

WILLIAM C. STURTEVANT, *General Editor*

"Promises to be . . . . an absolutely indispensable research tool that ought to be on the shelves of every public and private library."—**Claude Levi-Strauss, *L'Homme***

"Any Americanist who fails to start acquiring the set will surely live to regret the omission."—**Francis Jennings, *Reviews in American History***

"The preeminent reference work for anyone interested in the anthropology of [California]."—**Michael J. Moratto, *American Anthropologist***

"An essential reference source for anyone interested in the native peoples of North America."—**J.V. Wright, *American Antiquity***

"These books . . . . are simply superb, a major event in American publishing."—**Stewart Brand, *CoEvolution Quarterly***

A 20 volume encyclopedia summarizing knowledge about all Native peoples north of Mesoamerica, including cultures, languages, history, prehistory, and human biology. Standard reference work for anthropologists, historians, students, and the general public. Chapters by authorities on each topic, including one on each tribe in the area. Heavily illustrated, extensive bibliographies, well indexed. Each volume may be purchased and used independently.

Published in April, 1980: ***Vol. 9 Southwest;*** Alfonso Ortiz, Volume Editor; 720 pp. $17.00. *Covers general Southwest prehistory, history, and linguistics, plus cultures and history of all Puebloan peoples.* ***Volume 10, Southwest,*** *not yet published, will cover non-Puebloan peoples.*

Now in third printing: ***Vol. 8, California, 1978;*** Robert F. Heizer, Volume Editor; 800 pp. $13.50. ***Vol. 15, Northeast, 1978;*** Bruce G. Trigger, Volume Editor; 940 pp. $14.50.

ORDER FROM EITHER:

Superintendent of Documents, U.S. Govt. Printing Office, Washington, DC 20402.

— *Include stock numbers:* ***Vol. 8,*** *SN 047-000-00347-4;* ***Vol. 9,*** *SN 047-000-00361-0;* ***Vol. 15,*** *SN 047-000-00351-2;*

— *Add 25% for mailing to any address outside U.S.;*

Smithsonian Institution Press, P.O. Box 1579, Washington, DC 20013.

—*Add $1.69 per vol. for postage and handling unless payment by check is sent with order.*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

RELIGIOUS ADAPTATION IN ECONOMIC ORGANIZATION: THE CASE OF POTTERY MAKING AND EXCHANGE IN CHOWRA ISLAND*

G. P. REDDY

Chowra, a small island (2.8 sq. kms.) with a high density of population (500 per sq.km.), is situated in the Nicobar Archipelago in the Bay of Bengal. The Andaman and Nicobar Islands are centrally administered territories of the Indian Union. The natives, known as the Nicorabese, "show resemblances more towards the Indonesian-Malays than to the classical Mongoloids further north in the mainland of Asia" (Syamchaudhuri, 1977:22). The entire population is of native Nicorabese origin, and is geographically restricted to a single settlement on the southern coast of the Island. Despite the limitations of their environment, the Chowra natives subsidize their economy by means of a flourishing export trade in pottery, built upon and sustained by religious adaptive mechanisms. (1)

Environmental Limitations

The Island with 1500 population distributed over 266 households possesses meagre resources to sustain its large population. Its limited land mass (2.8 sq.kms.) is judiciously divided between low quality forest growth and horticulture dependent on shifting cultivation. The land under horticulture in the island is always less than the area under forest. Timber is required in large quantities for the construction of the wooden piled houses and for fencing gardens. The roots and tubers produced in the island's gardens are inadequate to support the population

* I express my thanks to the Social Studies Unit of the Office of the Registrar General, India, New Delhi for deputing me to do field work in Andaman and Nicobar Islands during 1971-1972, and also to the Department of Anthropology, Andhra University, Waltair for granting me financial assistance to revisit the Islands during 1979.

(1) This paper deals with only one aspect. In fact, religion plays a major role in the adaptation of many aspects in this Island (see G. P. Reddy, 1978).

The Mankind Quarterly, Vol. XX, Nos. 3 & 4 (Spring/Summer 1980)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

throughout the year, and as the island does not possess any fresh water, the natives depend on rain water and periodic supplies of fresh water brought in small quantities from a neighbouring island. Despite the nonavailability of clay, the inhabitants of Chowra enjoy a monopoly in pottery-making. They are also famous for their skill in building huge outrigger canoes, but since the required timber is not available in the Chowra forests, they have to secure clay from Terrassa island and the timber for the manufacture of their canoes comes from Terrassa, Katchall, Camorta and Noncouri Islands. Since they do not have a cash economy, religion has become an adaptive mechanism enabling them to secure the raw materials they need. In this paper we shall survey the adaptive use of religion for the securement of clay for pottery-making.

The Chowra Religion

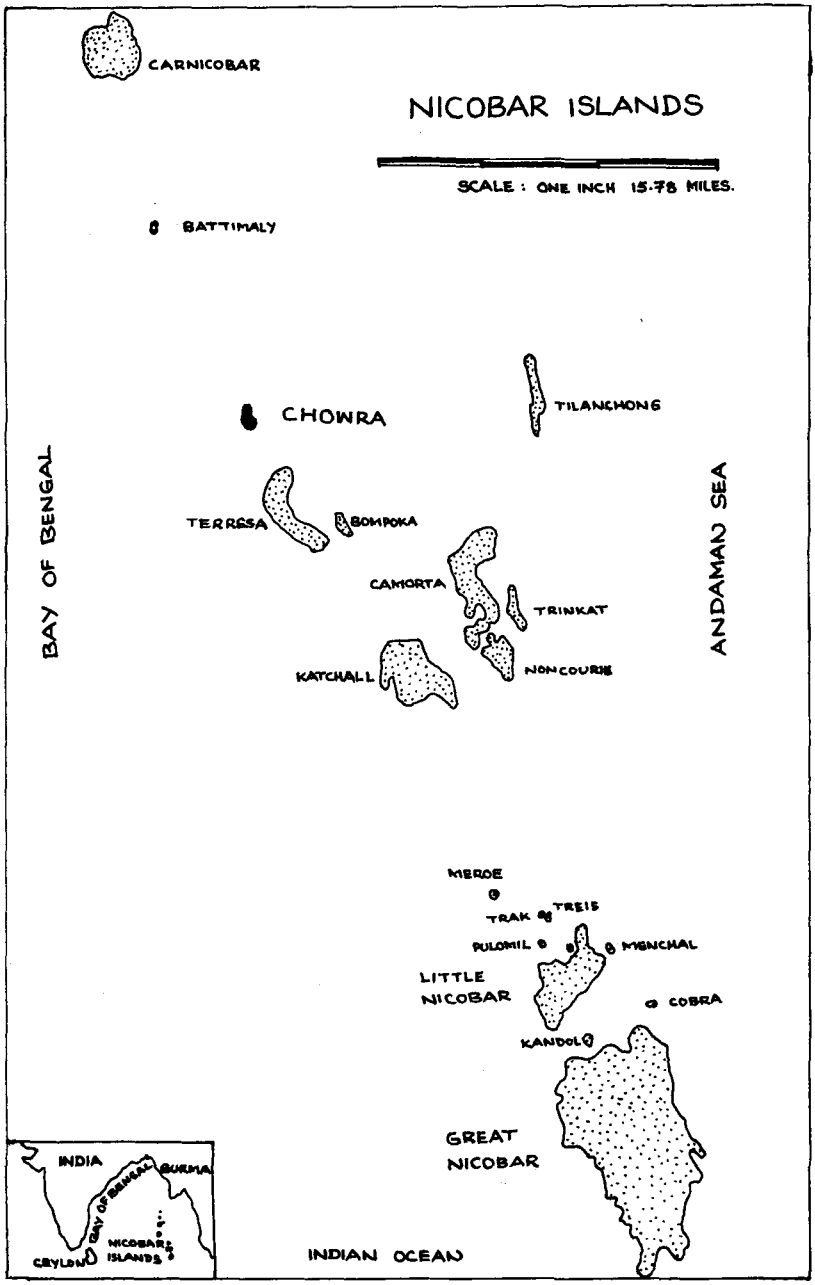
Though the island of Chowra is the smallest of all the inhabited Nicobar Islands, it has enjoyed religious supremacy and dominance from many centuries past over the other Nicobar Islands. In fact the Chowra islanders may rightly be described as the "Brahmins of the Nicobar Islands."

Chowra is famous for witchcraft, magic and sorcery. Boden Kloss, writing on the people of Chowra island, says that "a belief that Chowra men are great exponents of wizardry is deeply rooted throughout the group" (1971:296). Authors like E.H. Man (1901) and Richard Temple (1903) in their writings on the Nicobars repeatedly touch upon the theme of the Chowra's reputation in sorcery and witchcraft and the fear this created among other natives of these islands. Even today, this fear of Chowra witchcraft and sorcery still prevails in the area.

Basically the religion of Chowra consists of a belief in spirits and the control of these spirits by the *Kamasoon* (2) (the priests and medicine men of the island). The islanders conceive of three categories of spirits. They are: 1) *Iwi*, who are malevolent in nature, 2) *Sia*, who are benevolent in nature, and 3) *Ma-la-ha*,

(2) In other Nicobar Islands the natives have their own priests and medicine men locally called *Menluna*, but *Menlunas* are no match to the *Kamasoon* of Chowra in the supernatural sphere.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the ancestral spirits, which are basically benevolent. Of the three types, *Iwi* spirits are the most powerful and control the environment and the eco-system. The *Iwi* spirits have to be appeased constantly through *Kamasoon* with sacrifices and offerings, otherwise they become irritated and wreak havoc upon the island's economy. The only people who can control *Iwi* and turn their malevolent nature to the advantage of Chowra are the *Kamasoons*. (3)

Pottery-making (4)

The natives of Chowra enjoy a monopoly in pottery-making in the Nicobar Archipelago. This is maintained despite the non-availability of clay on the island. The *Kamasoon* of Chowra have tabooed the making of earthen pottery in any of the Nicobar Islands except Chowra. If anyone breaks this taboo, the *Iwi* spirits can bring instant death to the deviator. Writing about this belief, Distant says "Pottery is made at the Island Chowra and we learn from Mr. Fontana that on one of the Islands, some of the natives, having begun to fabricate earthen pots, soon after died, and the cause being attributed to this employment, it has been never resumed and they now go 15 to 20 leagues to provide them rather than expose themselves to so dangerous an undertaking" (1877:230).

Acquiring Clay

Sand and clay are the only raw materials required for making pots. While sand is available within the island, the clay is secured from clay pits on Terrassa Island, some 20 nautical miles away.

The procedure followed in securing clay from Terrassa Island is interesting. The Island Council (5) of Chowra, on the advice of *Kavee Kamasoon* (the Chief Kamasoon), fixes a day to make the voyage to Terrassa Island. As soon as the day is fixed, a messenger is sent to Terrassa to inform the natives of the pro-

(3) The religion of Chowra has many interesting facets and is much more elaborate than what is given here, this information is being restricted to the purposes of this survey.

(4) It is a hand-made pottery, using a coil technique which is probably a survival of neolithic period.

(5) The Island Council locally called *Kavee* consists of three Island Chiefs. Ist, IInd and IIIrd and the Village Chiefs.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gramme. On hearing of the impending visit of the natives of Chowra, the Terrassa islanders restrict their movements in the forest, avoiding the location of the clay pits. Even on ordinary days, though they are free to travel in any direction they are forbidden to step into the area where the clay pits are situated. If any Terrassa native violates this taboo the belief is that he will be bitten by a snake (actually another form of *Iwi*), causing death. It is believed that *Iwi* spirits, disguised as snakes, guard the clay pits on the orders of *Kavee Kamasoon* and other *Kamasoons*. The clay-collecting program is usually fixed between November and March, when calm weather prevails on the sea. A minimum of one man from each Chowra household participate in this voyage. Women are tabooed from participating in these expeditions.

The journey is undertaken in sea-going outrigger canoes, supervised by the *Kavee Kamasoon* and one or two other *Kamasoon*. During the journey, the men sing songs in praise of their pots, canoes and *Iwi* spirits. As soon as they enter the calm waters of Terrassa Island they stop singing and observe strict silence. If anyone breaks the silence he will not be allowed to land, and has to remain in the canoe till the party returns. After landing at the beach the party proceeds in silence to the clay pits situated two kilometers away. Here the *Kavee Kamasoon* sacrifices a piglet brought with them, collects its blood in a coconut shell and sprinkles it on the clay pits. The piglet is roasted on the fire, cut into small pieces, and eaten after offering a few pieces to *Iwi*. After this the Chowra islanders scoop clay with their hands, since the use of instruments is tabooed, and arrange it in small heaps. After each participant has collected sufficient clay, the clay is brought to the beach and loaded into the canoes which then sail back to Chowra. The entire operation is conducted in silence up to this point, but as soon as the party reaches the open sea they once again start singing songs in praise of their pots, canoes and *Iwi* spirits.

At the end of the journey, their women-folk receive them on the shores of Chowra. The *Kamasoon* once again sacrifice a piglet and anoint all the participants with its blood. Roasting the piglet on the fire, and cutting it into small pieces, they offer a few pieces to the *Iwi* before distributing the remainder among the people present. The womenfolk then help their men to carry the clay to their respective houses.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Sand for mixing with the clay is collected ceremonially by the women of the island one week after the arrival of the clay. On the day fixed by the *Kavee Kamasoon*, all the married women of the island – wearing only skirts made of black cloth – go in groups, comprised of odd numbers and maintaining strict silence, to a place called *Hiva* (6). There they collect the required quantity of sand before returning to their respective houses.

The actual manufacture of the pots is accomplished by the older women, who work each in her own home.

Demand for Chowra Pots

Chowra-made pots are in great demand among the natives of Carnicobar, Terrassa, Katchall, Camorta and Noncouri Islands. While these islanders secure earthen pots directly from the natives of Chowra, the inhabitants of Great Nicobar and Little Nicobar get their supply of Chowra-made earthen pots from the natives of Noncouri Island. In return for their pots, the Chowra natives receive such items as coconuts, piglets, cloth, fishing hooks, lines, and silver wire (7).

The continuing demand for Chowra-made earthen pots among the natives of these islands is further reinforced by religion. The belief prevailing among the natives of these islands is that pork should be cooked only in Chowra-made earthen pots, otherwise the *Iwi* spirits will become angry and punish the deviant with sickness and disease, ultimately leading to death. Likewise on ceremonial occasions such as birth, marriage and death, and at all communal feasts, food must be cooked in Chowra-made earthen pots. These beliefs, and fear of Chowra *Kamasoon*, is so deeply rooted that the natives of various Islands make annual voyages to Chowra to purchase earthen pots.(8) Such annual voyages not only enable them to obtain

(6) Some sanctity is attached to this place, which is supposed to be the spot where the first ancestors of the Chowra natives landed.

(7) Silver wire is used by women as anklets and bracelets. It is also one of the important items in 'bride price'.

(8) It is not that the natives of these islands are not aware of the metal utensils. Except for the island Chowra, all the other islands have been in contact with visiting traders from the countries of South East Asia for centuries. These traders have flooded the islands with metal utensils, including even stainless steel, and the natives make extensive use of these metal goods. Nevertheless, they still acquire Chowra earthenware in large quantities.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pots but also provide them an opportunity to honor the *Kamasoon* and the people of Chowra for their mastery over spirits. Mathur, writing about the annual trips of the natives of Carnicobar island to Chowra, says "such annual trips are specially important for young boys from Carnicobar going to the island for the first time. The attitude of the Carnicobarese is that all men should go to pay respects to their spiritual masters and wizards of magic in Chowra, and unless a boy does so his development is not considered complete and he is not supposed to have fully proved his mettle. These boys, going to Chowra for the first time, have to undergo many ceremonies, and the whole village joins in these celebrations" (1967:185)(9)

Those who participate in these annual expeditions carry with them coconuts, piglets, cloth, fishing hooks and lines, iron knives (locallled called *daw*), silver wire and other goods to be given in exchange for earthen pots. It is interesting to note after journeying from such long distances on the open sea the visitors do not even stay for a complete day in Chowra Island: neither do they enter into the interior of the island. Instead, they hurriedly transact their business with the natives of Chowra on the beach and depart as soon as the transactions are completed — usually within half a day. The fear of Chowra *Kamasoon* and of the Chowra capacity for witchcraft and sorcery is uppermost in their minds. Nor do the people of Chowra do anything to relieve them of this fear.

Once a year the people of Chowra make a return visit, but only to Carnicobar Island, (10) to exchange their pots and canoes. When the canoes from Chowra Island are sighted, the natives of Carnicobar gather at the landing beach to welcome their visitors. Each Chowra man is greeted by his traditional family friend, locally called *Holchu*. (11) The *Holchu* from

(9) Those boys who are visiting Chowra for the first time are called *'ramal'*. The *ramal* while starting the voyage to Chowra and after their return remain at the beach for two days undergoing many ceremonies. The ceremonies while starting to Chowra are believed to give strength to the boys to face *Kamasoon* and the people and after their return ward off the evil effects on account of meeting the *Kamasoon* and the people of Chowra.

(10) Traditionally the relationships between the natives of Chowra and Carnicobar are much more stronger and frequent. The Chowra natives get most of their consumer foods from Carnicobar.

(11) Each Chowra family maintains traditional friendship ties with one or tewo

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Carnicobar invites his *Holchu* from Chowra to his house, inviting him to stay as long as he wishes. The visitors from Chowra usually spend a fortnight as the guests of their *Holchus* in Carnicobar. During this fortnight the Chowra islanders are looked after with respect and diffidence, for fear they might resort to witchcraft and sorcery. In addition it is the local *Holchus'* responsibility to dispose of the pots and canoes brought by their friends. Only after exchanging all the pots and canoes, and after enjoying a final grand feast arranged in their honour, do the visitors embark upon their return journey.

We do not know how or when the natives of Chowra acquired their skill in pottery-making. However, after they acquired this technique it would seem that they acquired or retained a monopoly over pottery-making in the Nicobars, and also created a demand for these earthen pots by applying religious sanctions.

The natives of other Nicobar Islands are so fearful of the powers of witchcraft and sorcery possessed by the Chowra *Kamasoon* and people and their control over *Iwi* spirits, they meekly allow themselves to be exploited by the Chowra. The exchange ratios for their pots are dictated by the Chowra natives, and accepted by other natives without any bargain or murmur. The comment of E. H. Man about the attitude of the Carnicobarese towards the natives of Chowra is quite relevant even today. He says "Carnicobarese are timid and allow themselves to be bullied by the natives of Chowra, who assume an overbearing manner towards them, as well as towards their southern neighbours, all of whom are dependent on them for pots, which cannot be made in any of the other islands. The feeling predominant among the Carnicobarese as regards the people of Chowra is one of fear and they evince every desire to avoid incurring ill-will and resentment" (Quoted in Kloss 1971:308).

Thus, when visitors arrive at Chowra to make their annual purchases of earthenware, they complete their transactions in an atmosphere of diffidence and fear. Again when the natives of

families in almost all the Nicobar Islands. These friends call each other *Holchu* meaning 'bosom friend'. If a traditional friend from other islands visits his Holchu in Chowra in his personal capacity he is treated well and remains in his friend's house as long as he wishes. If he visits in a group for getting pots he will not enjoy any special privileges from his *Holchu* in the Island.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Chowra visit other islands, they have to be treated with respect and provided with all comforts. The atmosphere of fear forces the natives of other islands to accept negative reciprocity from the people of Chowra. If we examine the approximate exchange ratios for Chowra earthenware the aspect of negative reciprocity becomes very clear. The following table gives the approximate exchange ratios of different sizes of Chowra-made pots.

Approximate Exchange values of Chowra-Made Pots

S.No.	Type of Pot	Size (in inches)	Commodities received in exchange	Quantity of commodities received
1.	Kentaha Lana OK	27-28	Silver wire	1
			cloth	2 measures*
2.	Kentaha Lana OK	23-24	Silver wire	1
3.	Lana Shei Lana Oal	18-19	Cloth	6 measures
			Burmese daw	1
4.	Itasha Lana OK	16-17	Cloth	6 measures
5.	Itasha Lana OK	15-16	Cloth	3 measures
			Fishing Hooks	2
			Coconuts	10
6.	Nagaish	13-14	Cloth	3 measures
			Fishing Hooks	2
			Coconut	10
7.	Pano Kentaha	13-12	Cloth	2 measures
			Fishing line	1
8.	Pano Kentaha Lana OK	11-12	Cloth	2 measures
9.	Tatal	3-4	Fishing Hooks	2
			Coconuts	15

* One measure approximately equals to 1 yard.

The natives of Carnicobar and other islands are quite aware that they are being exploited by the natives of Chowra. All the Nicorabese, except for the natives of Chowra, have entered into a cash economy many decades back (G.P. Reddy, 1978). They sell their coconuts, copra and arecanuts and realize cash with which they purchase goods for consumption as well as for

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

exchange. They also are aware that stainless steel and German silver utensils are much cheaper to acquire and use, in terms of cash, then are the Chowra-made earthen pots, but they still use the Chowra pottery. As long as they remain in fear of the Chowra's mastery over spirits, witchcraft and sorcery they are content to agree to the terms set by the natives of Chowra.

It is clear from the above descriptive analysis that the natives of Chowra benefit economically from the traditional religious beliefs. In the context of Nicobar Islands, the natives of Chowra are doubtless considered to possess a superior technological tradition (G.P. Reddy: 1978), and this superior traditional technology, reinforced by their traditional religious superiority, gives them an economic advantage over the inhabitants of other Nicobar Islands. Notwithstanding the sparsity of resources on their island, the Chowra ability to reap good dividends from their superior technology is substantially reinforced by the prevailing beliefs regarding their knowledge of the supernatural, a set of beliefs which they consciously seek to perpetuate.

REFERENCES

Distant, L.W.
1877 "Our knowledge of the Nicorabese". *The Journal of the Anthropological Institute of Great Britain and Ireland*, Vol. VI, pp. 213.

Kloss, Boden
1971 Andamans and Nicobars. (first published 1902) Reprint, Delhi, Vivek.

Man, E. H.
1901 Census of India, Andaman and Nicobar Islands, Vol. II, pp. 189-196.

Mathur, K.K.
1967 Nicobar Islands, New Delhi: National Book Trust.

Reddy, G.P.
1978 Cultural Ecology of an Island Community: A case study of Chowra. Ph.D. Thesis, Andhra University (Unpublished).

Syamchaudhuri, N.K.
1977 The Social Structure of Car Nicobar Islanders: An Ethnic Study of Cognition. Calcutta: Anthropological Survey of India.

Temple, R.C.
1903 The Andaman and Nicobar Islands, Census of India, Vol. III, Calcutta: Supdt., Govt. Printing Press.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A SURPRISING ANTIQUITY: EDWARD LHUYD AND LITERARY ARCHAEOLOGY

SHIRLEY ANN KAHLERT

Literary Archeology is archeology twice removed, one of the distant ripples which reverberates from a new archeological discovery or interpretation. In "Tradition and the Individual Talent," T.S. Eliot suggests that archeology, with its scientific and material evidence, makes those of us who study literature more comfortable with the past. (1) I would like to go one step further – to show how changes in thinking about the past work after the fact to change contemporary literature. Such a change occurred at the end of the eighteenth century when the new empirical spirit born in the Renaissance began to transform into eighteenth century skepticism. For past Renaissance man archeological time remained shallow.

"In the deep discovery of the subterranean world, a shallow part would satisfy some inquirers. The treasures of time lie high, in urns, coins and monuments, scarce below the roots of some vegetables," wrote Sir Thomas Browne in 1658. (2) When Browne wrote *Hydriotaphia* the concept of time was fixed. Archbishop Ussher, among others, had set the *terminus a quo* of creation at 4004 B.C., a date shallow indeed when set against modern theory; in actuality at the moment when Neolithic farmers were settling in Britain. In 1687, a few years later, a Breton, the Abbé Pezron would set the date back another thousand years to accommodate Egyptian and Chinese antiquity. And in 1699 Edward Lhuyd, a Welsh antiquarian, philologist and naturalist, made a rare excursion into deeper time, and crawled into the Irish passage grave at New Grange:

> At the first entering we were forced to creep; but still as we went on, the pillars on each side of us were higher

(1) T. S. Eliot, "Tradition and the Individual Talent," in *The Sacred Wood* (London: Methuen and Co., 1921),P.42.

(2) Sir Thomas Browne, "Hydriotaphia" in *The Works of Sir Thomas Browne* (London: Faber and Gwyer Ltd, 1929), p. 7.

The Mankind Quarterly, Vol. XX, Nos. 3 & 4 (Spring/Summer 1980)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and higher; and coming into the cave, we found it about 20 foot high. In this cave, on each hand of us was a cell or apartment, and another went on straight forward opposite to the entry. In those on each hand was a very broad shallow bason of stone, situated at the edge. The bason in the right hand apartment stood in another; that on the left hand was single; and in the apartment straight forward there was none at all. We observed that water dropt into the right hand bason, tho' it had rained but little in many days; and suspected that the lower bason was intended to preserve the superfluous liquor of the upper, (whether this water were sacred, or whether it was for Blood in Sacrifice) that none might come to the ground. The great pillars round this cave, supporting the mount, were not at all hewn or wrought; but were such rude stones as those of Abury in Wiltshire, and rather more rude than those of Stonehenge: but those about the basons, and some elsewhere, had such barbarous sculpture (viz. spiral like a snake, but without distinction of head and tail) as the fore-mentioned stone at the entry of the cave. There was no flagging nor floor to this entry nor cave; but any sort of loose stones every where under feet. They found several bones in the cave, and part of a Stags (or else Elks) head, and some other things, which I omit, because the laboureurs differ'd in their account of them. A gold coin of the Emperor Valentinian, being found near the top of this mount, might bespeak it Roman; but that the rude carving at the entry and in the cave seems to denote it a barbarous monument. So, the coin proving it ancienter than any Invasion of the Ostmans or Danes; and the carving and rude sculpture, barbarous; it should follow, that it was some place of sacrifice or burial of the ancient Irish. (3)

(3) R. T. Gunther, ed., *The Life and Letters of Edward Lhwyd*, Vol. XIV of *Early Science at Oxford* (Oxford: Printed for the Subscribers, 1945), p. 429. Lhuyd's later letter to Dr. Tancred Robinson (p. 429) tempers his original excitement:

> I also met with one monument in this kingdom very singular: it stands at a place called New-Grange near Drogheda; and is a Mount or Barrow of very considerable height encompass'd with vast stones pitch'd on end round the bottom of it; and having another lesser standing on the top. This Mount is all the work of hands, and consists almost wholly of stones, but is cover'd with gravel and greensward, and has within it a remarkable cave. The entry

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Archæologia Britannica,

GIVING SOME ACCOUNT

Additional to what has been hitherto Publiſh'd,

OF THE

LANGUAGES, HISTORIES and CUSTOMS

Of the Original Inhabitants

OF

GREAT BRITAIN:

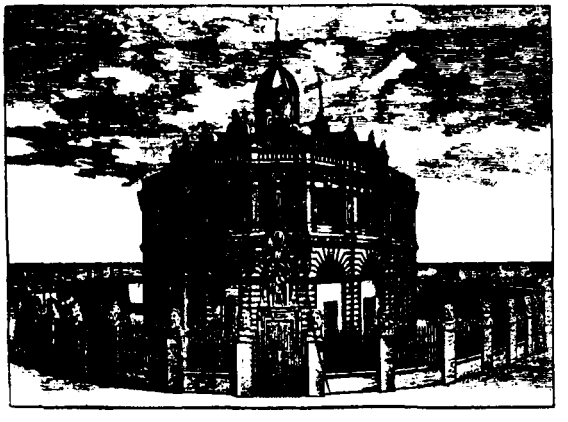
From Collections and Obſervations in Travels through

Wales, Cornwal, Bas-Bretagne, Ireland and *Scotland.*

By EDWARD LHUYD M.A. of *Jeſus College*,
Keeper of the ASHMOLEAN MUSEUM in OXFORD.

VOL. I.

GLOSSOGRAPHY.



OXFORD,
Printed at the THEATER for the Author, MDCCVII.

And Sold by Mr. *Bateman* in *Pater-Noſter-Row*, *London*: and *Jeremiah Pepyat* Bookſeller at *Dublin*.

Fig. 1 — Title page from Edward Lhuyd's *Archaeologia Brittanica* in the Special Collections Department at the University of California Los Angeles.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

We may consider Lhuyd the first modern archeologist. Indeed he was plagued by the same problems as modern academics — he spent much of his time and energy looking for funds to support his work, and because he kept terrible records, lost much of the support that he had been promised. He was arrested as a spy in Brittany, and sent back to England without doing the field work he had planned. To understand the importance of this discovery, however, we must look at Lhuyd within his contemporary context.

"There can be perhaps no greater entertainment," wrote Oliver Goldsmith in his *History of Carolan, the Last Irish Bard*, "than to compare rude Celtic simplicity with modern refinement." (4) Eighteenth century scholars and poets whether for reasons of entertainment, curiosity, or as Goldsmith puts it, "the desire to become acquainted with the ancient manners of our own ancestors," were determined to reflect their primitive past. What began as an intermediate gloomy notion — a vener-

into this cave is at bottom, and before it we found a great flat stone, like a large tomb-stone, placed edgwise, having on the outside certain barbarous carvings, like snakes encircled, but without heads. This entry was guarded all along on each side with such rude stones pitch'd on end, some of them having the same carving, and other cast ones laid a-cross these at top. The out pillars were so close press'd by the weight of the Mount, that they admitted but just creeping in, but by degrees the passage grew wider and higher till we came to the cave, which was about five or six yards height. The cave consists of three cells or apartments, one on each hand and the third straight forward, and may be about seven yards over each way. In the right hand cell stands a great bason of an irregular oval figure of one entire stone, having its brim odly sinuated or elbow'd in and out; and that bason in another of much the same form. Within this bason was some very clear water which drop'd from the cave above, which made me imagine the use of this bason was for receiving such water, and that the use of the lower was to receive the water of the upper bason when full, for some sacred use, and therefore not to be spill'd. In the left apartment there was such another bason, but single, neither was there any water in it. In the apartment straight forward there was no bason at all. Many of the pillars about the right hand basons were carvd as the stones above-mentioned; but under feet there were nothing but loose stones of any size in confusion; and amongst them a great many bones of beasts and some pieces of deers horns. Near the top of this Mount they found a gold coin of the Emperor Valentinian; but notwithstanding this, the rude carving above-mention'd makes me conclude this monument was never Roman, not to mention that we want History to prove that ever the Romans were at all in Ireland.

(4) Oliver Goldsmith, "The History of Carolan, the Last Irish Bard," (originally printed in the British Magazine for July 1760), *The Works of Oliver Goldsmith*, Vol. 4 (New York: Harper Brothers, 1900), pp. 20-21.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ation of the bard, but a misapprehension of his work, a preoccupation with druidism, a sense of civilized superiority – grew in two directions. The first was scholarly, conservative intent on preserving language and tradition. The second, more flamboyant, began with Paul Pezron's attempt to establish a Celtic mother tongue. Both strains appealed to the temperament of the age, one which courted primitivism, flirted with an alternative mythology, and fell fully in love with a new sense of liberty. Goldsmith urged his contemporaries to seek the remains of the past in "those countries which being in some measure retired from intercourse with other nations are still untinctured with foreign refinement, language, or breeding." Language, of course, provides one of the chief and most reliable marks of cultural distinction – "no people," remarks the Icelandic linguist Saemundsson, "in fact comes into being until it speaks a language of its own – let the language perish and the peoples perish too, or become different peoples." (5)

The rise of Britain as a modern industrial state reflects a process of linguistic unification, a process demonstrated in the rise of English as a ruling class language. Centralization, industrialization, empire, the forces of modern Great Britain, no matter how dark and satanic, managed a fusion of sorts. By the mid-nineteenth century, the descendants of a multitude of historical cultures – Welsh, Scot, Anglo-Saxon, Anglo-Norman, Irish, Pict, Jute, Roman – saw themselves as more or less English as their separate cultural and regional identities began to erode. The Anglicization of Britain was in fact gradual – Cornwall integrated before 1600, Wales annexed in 1536, Scotland incorporated in 1703 and Ireland in 1801. Each annexation carried with it a corresponding loss of Celtic sovereignty, a loss which obviously affected attitudes toward Celtic languages. The Act of Union with Wales in 1536, for example, demanded that no Welshman could hold office unless he could "use and exercise the speech or language of English." (6) In 1547, William Salesbury dedicated the first Welsh-English

(5) Sjéra Tomás Saemundson, cited in J.R.R. Tolkein, "English and Welsh," *Angles and Britons* (O'Donnell Lectures, Cardiff: University of Wales Press, 1963), p. 6.

(6) W. Owen Williams, "The Survival of the Welsh Language after Incorpration," *Welsh History Review*, 21 (1964), pp. 70-78.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

dictionary to Henry VII, glossing the preface with a verse from Corinthians: "For as St Paul sayeth if I knowe not what the language meaneth, I shal be unto him it speaketh an alien and he that speaketh shal be an alien unto me." Salesbury lavishly praises Henry's decision to annex Wales and change its language: "It is most convient and meet," he writes, "that they that be under the dominion of one most gracious head and king shal use also one language." However, the change from Welsh to English as a spoken tongue did not follow immediately. Although Salesbury termed his dictionary "much necessary to all suche Welshmen as will speedly learn the Englishe tongue," he also wrote "a brief and playne introduction teaching how to pronounce the letters in the British tongue." (7) While Welsh judges conducted court business in English, witness frequently gave testimony in Welsh which had to be translated for the court records. And although Welsh families sent their sons to England to be educated — Jesus College was established at Oxford in 1571 primarily for the education of the Welsh gentry — they taught their daughters at home. More than one English speaking Welshman married a Welsh speaking Welsh-woman.

However, while Welsh as a spoken language did not disappear, the attitudes of the Welsh toward their own language changed remarkably. By the middle of the seventeenth century, the Welsh gentry spoke Welsh only to "servants, tenants and social inferiors." "Of all the countries of the World," wrote John Edwards in 1651, "there is no nation so unloving and hostile to their own language as the Welsh." (8) This change in attitude affected the traditional bardic litterature. The number of bards dwindled as they lost their *bonheddig* patrons. The gentry found the old bardic measures less and less to their taste, and while the bardic adherence to tradition helped to slow the process of Anglicization, the status of the Welsh bard diminished. At the same time, English interest in historical Britain waned. Although Renaissance antiquarians in the Tudor cult of British history had appropriated the myths of Brutus and Arthur, their seventeenth century counterparts were pre-

(7) Wyllyam Salesbury, *A Dictionary in Englyse and Welshe* . . . The Cymmrodorion Society, 1877.

(8) W. Owen Williams, *ibid.*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

occupied with Anglo-Saxon studies, and moved toward a theory of German origins. Only the study of the druids kept an interest in the Celts alive.

Toward the end of the century, however, a change in attitude toward Celtic culture arose from within the community of Celtic scholars. Conscious of a culture standing at the edge of an abyss, about to be irretrieveably lost, scholars, antiquarians and poets worked to save it, knowing that, as Dr. Johnson later commented, "Tradition is but a meteor which if it once falls cannot be rekindled." (9) "Languages," comments Thomas Jones in the bilingual preface to *The British Language in its Lustre*, "have their infancy . . . their growth . . . and their old age, declinings and decays. And thus it pleased the Almighty to deal with us the Britains, for many ages hath eclipsed our power, and almost blotted us out of the books of records. We want nothing," he continues, "but the perfection of our original tongue, and for that we may thank ourselves." (10)

The perfection of that tongue was perceived as grand indeed, with an impressive geneology. The Welsh language had arrived in England with Brutus, the founder of the race. Works attributed to the Chaldeans extended its age further: the inhabitants of Britain before Brutus were descended from a grandson of Noah. A Mr. Beaton, who answered one of Edward Lhuyd's parochial queries, notes that these ancestors were not unlearned, but "great philosophers, Gatheleus being the grandchild of Phenus Fargi who was a grand teacher of languages, having taught in his school four score and ten languages immediately after the confusion of languages at Babylon." (11)

In the middle of the seventeenth century, Archbishop Ussher had set the date of creation at 4004 B.C. based on a chronology constructed from Genesis. The Breton, Abbé Paul Pezron, attempted to increase the age of the world to accommodate Chinese and Egyptian history. In 1687 he published *L'Antiquité des Tens Retablie* and moved the date back a thousand years.

(9) Samuel Johnson, *A Journey to the Western Islands of Scotland, The Yale Edition of the Works of Samuel Johnson*, IX (New Haven and New York: Yale University Press, 1971), p. 111.

(10) Thomas Jones, *The British Language in its Lustre* (1688) Menston, The Scolar Press, Ltd., 1972) p. A3.

(11) J. L. Campbell and Derick Thompson, *Edward Lhuyd in the Scottish Highlands* (Oxford: The Clarendon Press, 1963), pp. 25-6.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Shortly thereafter, he would invent the modern concept of "Celticism" and the notion of the early Celts as a unified people speaking a single language, one with an impressive geneology. Historically, the Greek name "Keltoi," or the Roman "Celtae" was applied to the peoples of Western Europe. Its first attested usage in the modern sense was in the title of Pezron's second work, *L'Antiquité de la nation et de la langue des Celts*, published in French in 1703 and translated into English in 1707 as *Antiquities of Nations*, more particularly of the Celtae or Gauls, who were taken to be originally the same people as our ancient Britons. Wales felt its influence in Theophilus Evans' translation, *Drych y Prif Ooedd (The Mirror of the Principle Ages)*, published in 1716 and again in 1740. Although Pezron's conclusions were at best tentative, his influence was immense and his work opened the way for a Celtic revival at mid-century.

Edward Lhuyd, on the other hand, ignored the more popular aspects of Celtic studies, especially the exhalted theories of linguistic origins espoused so enthusiastically by Pezron, and the notions of druidism. Because he concentrated on language rather than monuments, he anticipated a less than enthusiastic response to his work: "*It is the opinion of a great many, which in troth I am sorry to say that this first volume will meet but with a cold reception. It consists only of Etymology and Welsh and Irish vocabularies . . .*" While praising his achievement, his successors ignored his methods, continuing in the unfruitful attempt to link Welsh and Hebrew. One of these, Henry Rowlands, compares the achievement of Pezron and Lhuyd:

> These two now mentioned gentlement having by different methods open'd a way of resolving diverse tongues in *Europe* to one Mother language, which language Mr. Lhwyd leaves modestly undecided, but by Monsieur Pezron is determined to be the Celtick. (12)

And Perzron was determined indeed. He wanted to provide a tradition which could be an alternative to the traditions of Greece and Rome: *The Antiquities of Nations . . . containing a great variety of historical, chronological and etymological*

(12) Henry Rowlands, *Mona Antiqua Restaurata* (1733), cited in P.T.J. Morgan, "The Abbé Pezron and the Celts." *Transactions of the Honourable Society of Cymmrodorion*, p. 293.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

discoveries many of them unknown to the Greeks and Romans. While nodding to Lhuyd's solid knowledge, Rowland expresses his delight over Pezron's new ideas:

> As we, the Remains of the British nation, who have sole Interest in the honour of this antient *Celtick Tongue*, are forever obliged to that great Light of our *British* Antiquities, the learned *Pezron*, for his extraordinary Pains and Industry, in tracing and shifting out from the best Historical Evidence the Age could afford, the first Rise and Progress of our *Nation* and *Language*, and for his consummate skill and Judgement in giving us a true Light and agreeable view of our Origin in that excellent Book of his lately published in *French* and now English'd, which assuredly deserves the Perusal of every one that knows to value the Antiquities of his *Nation* and Language, so we ought to be no less grateful to the Memory of the late exquisitely learned and judicious *Mr. Edward Lhwyd*, keeper of the *Museum Ashmolaeanum* at Oxford . . . (13)

The achievement of the "exquisitely learned and judicious" Mr. Lhuyd was impressive indeed. Unlike Pezron, he was a thoroughgoing empiricist, collecting hard data and inventing comparative Celtic linguistics in the process. Beginning in 1677, he made tours of Wales, Scotland and Brittany, gathering manuscripts and other philological evidence. Keenly aware of the value of his own Welsh culture and attempting to eradicate a general ignorance about the past, Lhuyd accomplished the basic research that allowed the traditions and history of the Celtic peoples to continue. His *Parochial Queries*, first distributed in 1699, surveyed the surviving languages, archeological remains, games, customs, names and other folklore. His instructions for these Queries testify to his empirical methodology:

> My Request therefore to such as are desirous of Promoting the Work, is, That after each *Query*, they would please to write on the blank Paper, (or elsewhere if room be wanting) their Reports; confining themselves, unless the Subject shall require otherwise, to that Parish only where they inhabit; and distinguishing always betwixt Matter of Fact, Conjecture, and Tradition. Nor will any, I hope,

(13) Morgan, p. 292.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

> omit such Informations as shall occur to their Thoughts, upon Presumption, they can be of little use to the Undertaker, or the Publick, or because they have not leisure to write down their Observations so regularly as they desire: Seeing that what we sometimes judge insignificant, may afterwards upon some Application unthought of, appear very useful; and that a regular and compleat Account of Things is not here so much expected, as short Memorials, and some Directions in order to a further *Enquiry*."

The first and only volume of *Archaeologia Britannia* appeared in 1707, providing a study not of monuments but of words. Exhausted by the "fatigue of five years travel," and the preparation of the volume, he died in 1709. His assistant became a drunk, and many of his notebooks were lost. Both Jesus College and the Bodleian refused his papers.

Lhuyd wrote to a particular audience of specialists, groups of English and Welsh antiquarians who intended to preserve and continue the Celtic tradition. In his preface, *At Kymry*, written in Welsh and translated in his own hand, he apologizes to the common people because the book was written "at the command of some of the greatest persons of Wales, and for no Smale Number of the Learned Nobility and Gentlemen of England who have a curiosity of comparing with other Languages of Irish, Cornish and Amorik as well as the Welsh . . . " He addresses the "Learned Nobility" in the English preface:

> The language whereof you have here an account, being those of Nations conquer'd long before the Restoration of Polite Literature, can be but little regarded beyond the Limits of their Respective Territories. And since Diversity of Language is Generally granted to be rather an Inconveniency than the Contrary, 'twill be expected that I should here give some Account of the End I propose in this Design.

This design, "an Essay of tracing out the Original Language beyond what had been hitherto attempted did not proceed from "any conceited opinion . . . of the Plausibleness of these

(14) Preface to *Parochial Queries*, cited in Richard Ellis, "Some Incidents in the Life of Edward Lhuyd," (read before the Honourable Society of Cymmrodorion, 1907) in The Life and Letters of Edward Lhwyd, Vol. XIV of *Early Science at Oxford* (Oxford: Printed for the Subscribers, 1945), p. 18.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

languages," but to better study ancient place and person names, and to better understand the ancient manuscripts. Lhuyd wanted to clarify prehistory, to provide "a clearer notion of the First Planters of the Three Kingdoms." (15)

Thus, the first two branches of this scholarly Celtic tree would produce two poetic offshoots, one following Lhuyd, scholarly, conservative, authentic, the other after Pezron, flamboyant and intoxicated with the past. The natural child of Pezron's theory of a Celtic mother-tongue was of course, Ossian. The facts are clear: Macpherson translated a seventh of the poems and composed the rest. His influence was immense: one-seventh scholar, six-sevenths charlatan, Macpherson officiated at the birth of European romanticism and dominated the Celtic revival. Overflowing with Celtic or quasi-Celtic names, possessed by a morbid sentimentalism, characterized by an amporphous landscape, the poetry achieved a greater notoriety than critical acclaim. Like Lhuyd, Johnson, Goldsmith and Gray, Macpherson sought tradition in isolated places, and turned to the Highlanders. "There are more remains of antiquity among them, than any other people of Europe. Their language is pure and original, and their manners those of an ancient and unmixed race of men." (16)

Macpherson depended on the validity of Celtic philological studies to authenticate his fictions. To prove the association of the Celts with the Highlands, he provides an etomology for the name "Caledonia": "It is compounded of two Celtic words, *Cäel* signifying *Celts* or *Gauls*, and *Dun* or *Don*, a hill; so that *cael-don*, or Caledonians is as much to say the *Celts of the hill country*. The Highlanders to this day call themselves Cael and their language *Cäelic* or *Calic*." (17) Macpherson depended on another factor for intensity of effect – the force of what Matthew Arnold would later name "Celtic style" – "for the ideas, it is to be confessed, are too local to be admired in another language." (18) And all Europe felt the power of

(15) Lhuyd, Edward, Preface to *Archaeologia Britannica* (1707) (Menston: The Scholar Press, 1969), p. 111.

(16) James Macpherson, "A Dissertation prefixed to Temora," *Ossian* (Heidelberg: Carl Winter's Universitats-Buchhandlung, 1940), p. ii.

(17) Macpherson, p. v.

(18) Matthew Arnold, *On the Study of Celtic Literature* (London: Macmillan and Co., 1873), p. 109.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Macpherson's melancholy, philologically sound or not.

To check the Ossianic flood, British scholars turned to Welsh poetry. Because the authentic bardic tradition, however bedraggled and ignored, had continued in Wales (*Eisteddfodau* had been held in 1702, 1719, 1735, 1738, 1740, 1760, 1773 throughout Wales,) and because Welsh antiquarians had taken care in the preservation of languages and manuscripts, the authenticity of the ancient Welsh poetry was beyond suspicion. Evan Evans' *Some Specimens of the Poetry of the Antient Welsh Bards* provided the earliest post-Ossianic evidence for authenticity. Placing the conception of his work "some years before the name of Ossian was known in England," Evans had faith that his audience would receive the poems "from the natural curiosity to be acquainted with the great works of antiquity." "I have long been convinced that no nation in Europe possesses greater remains of ancient and genuine pieces of this kind than the Welsh, and therefore was inclined, in honor to my country, to give a specimen of them in the English language." (19)

Thomas Gray, on the other hand, spoke well if briefly in favor of Ossian, receiving Macpherson's initial translations with enthusiasm. "I am gone mad about them – extasie with their infinite beauty." After corresponding with Macpherson, he tempered his enthusiasm with scepticism but remained enthusiastic despite himself – he resolved to believe the poems genuine despite the Devil and the Kirk. (20) However, he gave them no further notice and turned himself to, as Robin Flower notes, re-inventing the bard. (21) Touched by the antiquarian temper of the times, he examined the theories of Celtic languages and was surprised at what he found: though the language had been impoverished and corrupted, "by far, the greater part of its words yet in use have no simultude to any other in Europe and bear the mark of a surprising Antiquity." Gray is less enthusiastic about the theories of a Celtic mother tongue espoused by Pezron and his successors: "The learned,"

(19) Evan Evans, *Some Specimens of the Poetry of the Antient Welsh Bards* (London: R. and J. Dodsley, 1764), pp. i-iv.

(20) Thomas Gray's Commonplace Book II in Roger Martin, *Chronologie de la vie et de l'Œvres de Thomas Gray*, pp. 192-194; 196.

(21) Robin Flower, *The Irish Tradition* (Oxford: Oxford University Press, 1973),

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

he comments with reservation, "need not have gone so far as to the Celto-Scythian tongue, the common matrix – if we believe them – of the Persian, Greek, Latin, German and Gaulish and almost every known language, though nobody pretends to understand it much less account for it." (22) Like Macpherson, Gray wanted to vindicate the spirit of the bard, but not his language, to capture that aspect of Celtic culture which was untranslatable, and to place it within the framework of his experience. Gray, who had never seen Snowdonia, found his landscape in the Alps. Genuine Bardic poetry, on the other hand, stressed geneologies with place and personal names providing a "keen sense of continuity within the society." (23) When English writers attempted to articulate this sense in another language, in another social context, they found that they had uttered something considerably less tangible.

(22) Thomas Gray, p. 198.
(23) Patrick K. Ford, *The Poetry of Llywarch Hen*. Berkeley and Los Angeles: The University of California Press, 1975), p. 8.

REFERENCES

Arnold, Matthew
1873 *On The Study of Celtic Literature* London: Macmillan and Co.

Browne, Thomas
1929 "Hydriotaphia: Urne-Burial or, A Brief Discourse of the Sepulchrall Urnes Lately Found in Norfolk" (1658) in *The Works of Sir Thomas Browne*. London: Faber and Gwyer Ltd.

Campbell, J. L. and D. Thompson
1963 *Edward Lhuyd in the Scottish Highlands*. Oxford: The Clarendon Press.

Daniel, Glyn
1967 "Edward Lhuyd, Antiquary and Archaeologist", *Welsh History Review*, 3, 345-359.

Eliot, T. S.
1920 "Tradition and the Individual Talent" in *The Sacred Wood* London: Menthuen and Co.

Emery, Frank
1971 *Edward Lhuyd, F. R. S. 1660-1709*. Caerdydd: Gwasg Prifysgol Cymru.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Evans, Evan
1764 *Some Specimens of the Poetry of the Antient Welsh Bards, Translated into English with Explanatory Notes on the Historical Passages and a Short Account of Men and Places mentioned by the Bards In order to give the Curious some Idea of the Taste and Sentiments of our Ancestors and their Manner of Writing.* London: Printed for R. and J. Dodsley in Pall-Mall.

Flower, Robin
1973 *The Irish Tradition* (1947) Oxford: Oxford University Press

Ford, Patrick
1974 *The Poetry of Llywarch Hen: Introduction, Text and Translation.* Berkeley and Los Angeles: The University of California Press.

Gray, Thomas
1775 *The Bard: A Pindaric Poem, by Mr. Gray, Translated into Latin Verse, To Which is Prefixed a Dedication to the Genius of Antient Britain.* Chester: Printed by Poole, Barker, and Co. in Foregate-street.

Goldsmith, Oliver
1900 "The History of Carolan, the Last Irish Bard," in *The Works of Oliver Goldsmith*, Vol. 4. New York: Harper Brothers.

Gunther, R. T.
1945 *Early Science at Oxford: Vol. XIV: The Life and Letters of Edward Lhwyd.* Oxford: Printed for the Subscribers.

Hechter, Michael
1975 *Internal Colonialism. The Celtic Fringe in British National Development, 1536-1966.* Berkeley and Los Angeles; The University of California Press.

Herity, Michael
1974 *Neolithic Tomb Builders in Ireland and Britain, 2500 B.C.* Dublin: Irish University Press

Jack, Ian
1972 *Medieval Wales: The Sources of History. Studies in the Uses of Historical Evidence.* Ithaca: Cornell University Press.

Jones, Thomas
1973 *The British Language in its Lustre* (1688) Menston: The (facsimile) Scolar Press, Ltd.

Johnson, Samuel
1971 *A Journey to the Western Islands of Scotland.* The Yale Edition of the Works of Samuel Johnson, Vol. 9. New Haven and New York: The Yale University Press.

Lhuyd, Edward
1707 *Archaeologia Britannica: giving some account Additional to what has been hitherto Publish'd of the Languages, Histories and Customs of the Original Inhabitants of Great Britain From Collections and Observations and Travels through Wales, Cornwal, Bas-Bretagne, Ireland and Scotland by Edward Lhuyd. M.A. of Jesus College, Keeper of the Ashmolean Museum in Oxford, Volume I. Glossography, Oxford: printed*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

at the Theater for the author, MDCCVII. Imprimatur: A. R. Charlett.

Macpherson, James
1940 (facsimile) "A Dissertation prefixed to *Temora*, an Antient Epic Poem," in *Ossian.* Faksimile-Neudruck der Erstausgabe von 1762-63 mit Begleitband Die Varianten. Otto L. Jiriezek, ed. Heidelberg: Carl Winter's Universitats-Buchhandlung,

Martin, Roger
1931 *Chronologie de la vie et de l'oeuvre de Thomas Gray.* Paris: Les Presses Universitaire de France.

Morgan, P. T. J.
1964 "The Abbé Pezron and the Celts," *Transactions of The Honourable Society of Cymmrodorion*, 286-95.

Parry, Thomas
1955 *A History of Welsh Literature.* Translated by H. Idris Bell. Oxford: Clarendon Press.

Salesbury, Wyllyam
1877 *A Dictionary in English and Welshe moche necessary to all suche Welshe men as wil spedly learn the englyshe tongue thought unto the Kynge's maiestie mete to be sette for the use of his graces subjectes in Wales: whereunto it is pfixed a little treatyse of the english pronunciation of the letters by Wyllyam Salesbury. Imprinted at London in Foster Lane by me John Waley.* (1547) The Cymmrodorion Society.

Tolkein, J. R. R.
1963 "English and Welsh" in *Angles and Britons* (The O'Donnell Lectures) Cardiff: The University of Wales Press.

Williams, W. Owen
1964 "The Survival of the Welsh Language after Incorporation." *Welsh History Review*, 21, 67-93.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

CAMBRIDGE

Living Archaeology

Richard A. Gould

Using a range of case studies including his own observations of the Australian Aborigines, Gould presents a unified theory of ethnoarchaeology. He demonstrates a reliable way to infer adaptive behavior in prehistoric communities by studying such behavior in contemporary society and by analyzing the evidence in material discards.
New Studies in Archaeology Hardcover $27.50 Paper $9.95

The Cambridge Encyclopedia of Archaeology

edited by Andrew Sherratt

Over 50 internationally known scholars survey on a global scale the exciting archaeological discoveries of recent decades, and explain the changes they have made in our view of man's evolution and history. Using over 500 illustrations, one-third in color, they describe the beginnings of civilization and the economic and cultural developments that brought man from hunter to astronaut in just ten thousand years.
Co-published with Crown Publishers. $35.00

Archaeological Constructs

An Aspect of Theoretical Archaeology

Jean-Claude Gardin

Gardin investigates the way that archaeological information is selected and presented and the reasoning processes that these different modes of presentation embody. A co-publication of *Cambridge University Press* and *Les Editions de la Maison des Sciences de l'Homme* $32.50

The Cambridge Ancient History

Volumes I and *II* *Now in Paperback*

Oral Poetry

Its Nature, Significance and Social Context

Ruth Finnegan
Now in Paperback $10.95

Sociolinguistics

R. A. Hudson
Cambridge Textbooks in Linguistics
Hardcover $34.50 Paper $10.95

Pidgin and Creole Languages

Selected Essays by Hugo Schuchardt
Glenn G. Gilbert, Editor $27.50

The Human Biology of Circumpolar Populations

F. A. Milan, Editor
International Biological Programme 21
$75.00

Cambridge University Press

32 East 57th Street, New York, N.Y. 10022

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE ANTHROPOLOGICAL ORIGINS OF THE THRACIANS

PETER BOEV

Since the end of the Bronze Age and above all in the early Iron Age, two great ethnic groups appeared in the north of the Balkan peninsula: the Thracians in the east and the Illyrians in the west. Both were neighbors of the Ancient Greeks and later were incorporated into the Roman Empire. From these sources the first written reports reached us concerning the two Balkan lands and their populations.

More is known about the Thracians on the basis of their closer relations to the Ancient Greeks. Herodotus considered the Thracians the greatest people next to the Indians. Their nuclear region was the northeast of the Balkan peninsula (See Map 1). This comprised all of present-day Bulgaria. However, Thracian groups were also known in the western part of the Balkans up to the Adriatic coast, in the south up to the Greek islands, and in the north far beyond the Danube River (Danov 1966, 1971).

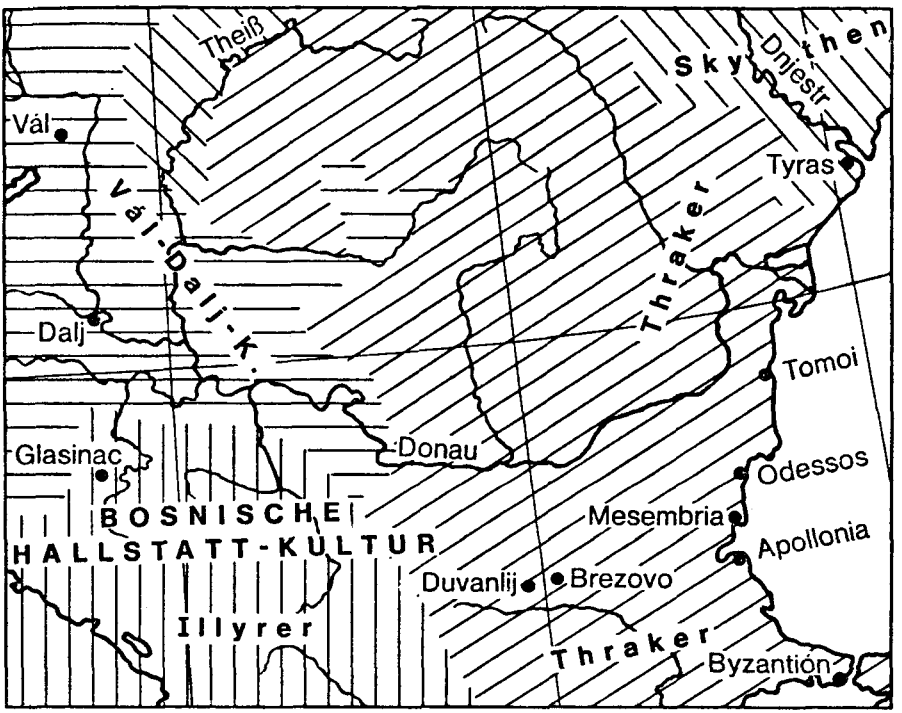
The Thracians were organized into many tribes, who only temporarily formed a greater political unit. The Thracians spoke an Indo-European language of the Satem-group. They were linguistically related to the northern Dacians and Getians. The often grandly-equipped burial mounds indicate sharp social distinctions with a horse-riding noble upper class (Danov 1976).

It is in dispute if the Thracians came from the North into present-day Bulgaria in the train of the great Indo-European migrations, which also brought the early Greeks to Greece. This is the view of among others the prehistorian Dr. Mikov (1960). Alternatively the Thracians may represent an autochthonous ethnic group. This view was derived by Dr. Heorgiev (1961) above all on the basis of linguistic evidence. The anthropological finds which could contribute to this dispute are also not clear and in addition are quite sparse in number.

The ancient Greeks regarded the Thracians as kinsmen of the Scythians, Germans, and Celts. Thus, they saw them as tall

The Mankind Quarterly, Vol. XX, Nos. 3 & 4 (Spring/Summer 1980)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



Map 1 - The Distribution of the Thracians in the eastern Balkans (Boev, 1979).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

northern peoples with fair skin and hair. Also in the case of the description of individual Thracians by ancient writers, light hair and light eyes predominate, insofar as data about pigmentation are presented. These are descriptions mostly of war leaders or other representatives of the military-knightly upper class.

Wilhelm Sieglin in his classic work *Die blonden Haare der indogermanischen Voelker des Altertums* (1935) surveyed and summarized the descriptions by writers and artists of classical antiquity of the hair, eye, and skin color of different peoples. With respect to the Thracians, Dr. Sieglin concluded: "The inhabitants of the Balkans and of southern Russia – the Illyrians, Dalmatians, Thracians, and Scythians – were also blond in ancient times; they have partly lost the original pigmentation in even greater measure than the Germans and Celts, to be sure largely as a consequence of alien migration . . . . Of eight Thracians in Antiquity, whose hair color is by chance portrayed, seven are blond; only one has black hair. Of two heroes and a Getian, who appear in a comedy, the hair color which was ascribed to them, is known to us; in the case of all three, it is blond."

Subsequently, I reviewed the physical descriptions of various European and Mediterranean peoples by the writers of ancient Greece and Rome in my work on *Die Rassentypen der Balkanhalbinsel und der Ostagaischen Inselwelt und deren Bdeutung fur die Herkunft ihrer Bevoelkerung* (1972). At that time I wrote (pg. 143):

> "For *Ovid*, the Getians are blond. *Aristotle* relates that the Thracians and Scythians living on the Black Sea are smooth-haired. *Galenus* reports that the Celts, Germans, Thracians and Scythians had white, hairless skin. *Xenophanes* describes the Thracians as blue-eyed and red-haired. *Julius Firmicus* calls the hair of the Thracians yellow-red. In the *Anthologia Palatina*, the historical women are blond. *Plutarch* terms the Thracians, who took part in the battle of Pydna (in Macedonian Greece), stately men. *Porphyrius* also states this."

The above material would indicate a northern origin for the Thracians. However, according to some pictorial representations (See Figures 1, 2, and 3) and the few skeletal remains which have been preserved of the Thracians, who usually burned their dead, they are directly connected to the older pre-Thracian

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Figure 1 - Orpheus among the Thracians - Greek Krater Portrait of the Fifth Century (Boev, 1979).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

population of Bulgaria on the basis of their Mediterranean-Dinaroid anthropological structure (Boev 1972). Nevertheless, some of the large, powerful dolichocephalic crania could be classified as Nordid just as well as Atlanto- or Proto-Mediterranid (Schwidetzky 1972). These data support the view of an autochthonous origin for the Thracians.

A solution of this dispute lies perhaps in the acceptance of a clear social-anthropological differentiation. The Thracians with whom the Greeks became acquainted belonged above all to the upper strata of the mobile knightly warriors, but the mass of the Thracian population cultivated the land or pursued one of the many industries which in part were highly developed.

Boev (1972) was able to compile anthropometric data concerning a total of 26 well-dated Thracian skulls. These comprised 11 crania from the 10th.-4th. Centuries B.C., 6 crania from the 3rd.-1st. Centuries B.C., and 9 crania from the late Roman and Byzantine time. The latter were predominantly obtained from excavations in Sofia, Bulgaria. The earlier cranial remains are on the average stronger, more sharply dolichocranial, and higher-faced. These data are presented in Table 1.

A statistical verification of the anthropometric difference over time is not possible due to the small number of individual crania. The most frequently measurable anthropometric trait is the greatest cranial length. In Figure 4, the individual values of this trait for the Thracian male crania are plotted by time period. In this case a trend toward decreasing cranial length is clearly evident.

Such a finding would be in accord with the other anthropological data about the Thracian population biology. It could indicate a gradual decimation of a tall powerfully-built military upper class. This upper class most likely decreased in number in the course of the countless wars with the Greeks, Scythians, Persians, and Romans, as well as in the tribal wars of the Thracians among themselves. As a consequence, the sociogenetic barriers probably declined and the descendants of the knightly upper class increasingly acquired the characteristics of the general population.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Figure 2 - Coin Portrait of the Thracian King Seuthes III
4th. Century B.C. (Boev, 1979).

Figure 3 - Thracian Horseman-God (Boev, 1979).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

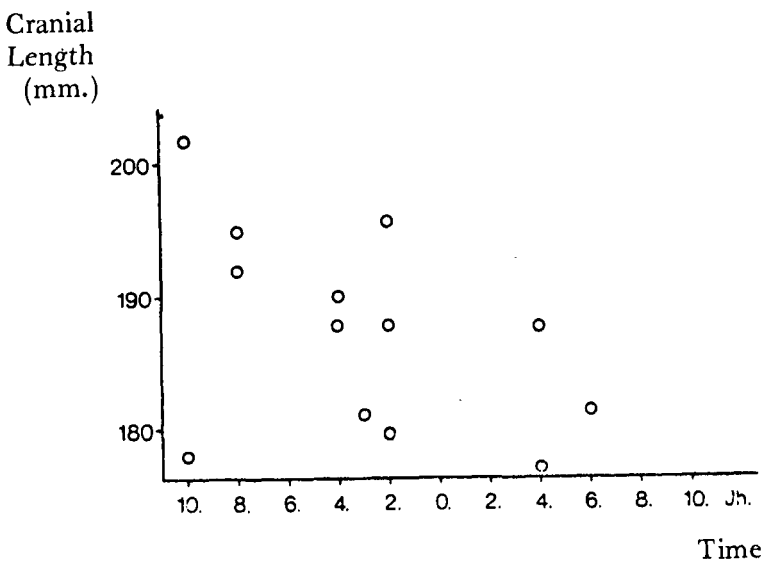


Figure 4 - The decrease in cranial length among Thracian skulls from 1000 B.C. to 600 A.D. (Boev, 1979).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TABLE 1

THE MEAN VALUES OF ANTHROPOMETRIC TRAITS AND INDICES OF THRACIAN MALE CRANIA
(Boev, 1972)

Anthropometric Trait or Index	Early Thracians (1)	Late Thracians (2)
1. Greatest Cranial Length	189.7	181.7
2. Greatest Cranial Breadth	141.0	150.0
3. Basion-Bregma Height	134.6	139.4
4. Zygomatic Arch Breadth	128.0	141.1
5. Upper Facial Height	70.8	73.2
6. Nasal Breadth	25.5	24.6
7. Nasal Height	52.6	54.0
8. Lower Jaw Angle Breadth	104.3♀	————
9. Breadth-Length Index	74.6	82.7
10. Height-Length Index	72.0	78.0
11. Height-Breadth Index	91.6	92.6
12. Upper Facial Index	55.9	50.6
13. Nasal Index	48.8	43.7
14. Orbital Index	78.8	82.2

1. The number of crania from which the measurements were taken ranged from three to nine.
2. The number of crania from which the measurements were taken ranged from four to nine.

From the Thracian skeletal remains, the stature could only be estimated in the case of the male from Kalojanovo, Bulgaria, who was tall with an estimated stature of 175 to 180cm.

The skeletal finds from Varna were also dated at the end of the pre-Slavic time period – namely in the 5th. Century A.D. (Hajnis 1965; Postnikova 1968). According to Dr. Postnikova, the inhabitants of this site were an ethnically mixed urban population, to which Thracian population elements also contributed. Corresponding to the ethnic character of Bulgaria at that time, the population was still predominantly Thracian.

In summary, the Thracians were one of two powerful ethnic

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

groups who appeared in the northern Balkans toward the end of the Bronze Age and the early Iron Age. The Thracians are known to us from the writings of the Ancient Greeks and Romans. Thracian groups settled in much of present-day Bulgaria, but were also reported west to the Adriatic Sea, south to the Greek islands, and far north of the Danube river. The Thracians were an Indo-European people, linguistically related to the Dacians and the Getians. They were politically divided into many tribes, who only temporarily formed a greater political unit.

The origins of the Thracians are still in dispute. Some prehistorians believe that the Thracians originated in the North and came to the Balkans in the train of the great Bronze Age Indo-European migrations which also brought the Greeks to Greece. Other scholars consider the Thracians as autochthonous in origin developing from the older pre-Thracian Neolithic population.

The ancient Greeks regarded the Thracians as kinsmen of the Scynthians, Germans, and Celts. Individual Thracians were described as tall and fair-skinned, with light eyes and light hair. These data would indicate a northern origin for the Thracians.

The contribution of physical anthropologists to the debate over the origin of the Thracians is limited by the scarcity of cranial and skeletal remains. In addition, the Thracians generally burned their dead. The Thracian crania which have been excavated generally show a Mediterranean-Dinaroid anthropological structure, although some of the larger, more powerful dolichocranial skulls could also be classified as Nordid. There is also a change in some anthropological traits from 1000 B.C. to 600 A.D., such as a decrease in greatest cranial length.

The dispute over the origin of the Thracians can be resolved by regarding the Thracians as a socially-stratified people, in which an immigrant warrior ruling class ruled over a more settled population which cultivated the land or worked in the local industries. These elements of the Thracian population were derived from the older pre-Thracian Neolithic populations. The Thracians with whom the early Greek writers were most concerned was demonstrably the upper ruling class. In the course of time, this upper class became gradually decimated in countless wars with the Greeks, Scythians, and Romans. As a consequence, social barriers were probably reduced and the descen-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

dants of the warrior class became genetically assimilated into the general population.

Translated from the German by Donald A. Swan

REFERENCES

Boev, Peter
1972 *Die Rassentypen der Balkanhalbinsel und der Ostagaischen Inselwelt und deren Bedeutung fur die Herkunft ihrer Bevoelkerung.* (Sofia, Bulgaria).

Boev, Peter and Ilse Schwidetzky
1979 "Rassengeschichte von Bulgarien," in *Rassengeschichte der Menschheit: 6 Lieferung Europa IV*, edited by Ilse Schwidetzky (Muenchen, Germany).

Danov, C.M.
1966 "Zur historischen Geographie der estthrakischen Stamme ver und zur Zeit des Odrysserreiches (VI-IV Jahr. v.u. Zeit)," *Etudes Historiques* 3: 11-25.
1971 "Zu der Ethnogenese und den Lageverschiebungen der Volksstamme Altthrakiens in der zweiten Halfte des II. und der ersten Halfte des I. Jahrtausends v.u. Zeit," *Studia Balcanica* 5: 271-277.
1976 *Altthrakien.* (Berlin, Germany).

Georgiev, G.
1961 "Kulturgruppen der Jungsteinzeit und der Kupferzeit in der Ebene von Thrazien (Sudbulgarien)," in *L'Europe a la Fin de l'Age de Pierre.* (Praha, Czechoslovakia).

Hajnis, K.
1965 "Roemerseitliche Schadel des 4.-5. Jahrhunderts aus Warna in Bulgarien," *Anthropologie (Brno)* 2/2: 63-70.

Mikov, V. and N. Dzambazov
1960 *Devetaskata Pescera* (Sofia, Bulgaria).

Postnikova, N.
1968 "Anthropological Materials from Varna (4th.-5th. Centuries)," *God. Su. Biol. Fak.* 60: 37-54.

Schwidetzky, Ilse
1967 "Vergleichend-Statistische Untersuchungen zur Anthropologie des Neolithikums. Ergebnisse der Penrose-Analyse. Das Gesamtmaterial," *Homo* 18: 174-198.
1972 "Vergleichend-Statistiche Untersuchungen zur Anthropologie der Eisenzeit," *Homo* 23: 245-272.

Sieglin, Wilhelm
1935 *"Die blonden Haare der indogermanischen Voelker des Altertums.* (Muenchen, Germany).

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE EVOLUTION OF THE SPARTAN SOCIAL SYSTEM

JOHN W. RICHARDS

Much has been written about the strongly disciplined Spartan kingdom of classical Greek times, which prided itself on the military skills of its warrior aristocracy, its subordination of the individual to the good of the state, and its devotion to human stock-breeding, even to the point of utilizing infanticide to maintain the quality of its elite families. In its rivalry with democratic Athens, Sparta championed the cause of aristocracy and the traditional values of the multitude of small Greek states that Athens attempted to bring under its widening sphere of influence. However, much of what has been written about Sparta leaves the impression that Spartan culture and Spartan customs were something of a unique development in the history of the western world. Nothing could be farther from the truth. Not only did Spartan society reveal a comprehensible evolution from earlier Indo-European tribal society, but this evolution – which retained as its central motive the concept that the state, like the tribe, was still essentially a kinship organization to be conceived of as an enlarged family unit –was also paralleled to no small extent by other Dorian states in ancient Greece.

The Achaeans, themselves of Greek origin, who inhabited most of the Aegean area prior to the arrival of the invading Dorian tribes – an invasion which brought the ancestors of the Spartans into the Peloponnese – originally possessed a similar tribal form of society to that inherited by the forebears of the Spartans. This essentially comprised a three-tier social structure, composed of a military upper class (or caste?) of god-descended royal and noble families, a freeman class of farmers and artisans who possessed full tribal rights, including the right to bear arms as members of the 'militia', and an unfree class of Helots or slaves, who were not accepted as members of the tribe, and who possessed no rights except as the property of a freeman or noble family. These latter are generally believed to have been descended from conquered peoples, and, not knowing who their ancestors were, were generally described as being without souls.

The political organization of these early Indo-European tribal

The Mankind Quarterly, Vol. XX, Nos. 3 & 4 (Spring/Summer 1980)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

societies functioned around a Council of nobles, who were generally consulted by the king – himself usually elected from amongst the more capable and popular male members of the royal house – and an Assembly of the freemen, comprising all adult free males. It was this latter body which was to become the dominant political unit in late Athenian "democracy."

The Dorian Invasion of the Aegean

While Homeric Achaean society was still proto-feudal, the Dorians to their north were developing a family-state concept and converting the old tribes into powerful war-machines, with which to menace the Aegean. Several Achaean kingdoms fall, to the Dorians and eventually even King Nestor's old capital of Pylos was threatened. Fresh orders went out for bronze spear-heads, the Pylos navy sailed to the Gulf of Patros, the army was readied, and the town was purified by sacrifices against the coming of the enemy – apparently to no avail (Palmer, 1955, p. 20-22). These orders were recorded on the last tablets to be made at Pylos, and the rest of the story has to be pieced together from legends still surviving centuries later, reinforced by mute archaeological evidence of the Dorian occupation of the Peloponnese.

Nixon, in "The Rise of the Dorians" (1968), draws attention to the role of the Heracleidae, an old Achaean family, which seems to have assumed the leadership of the Dorians, and suggests that the Dorian invasions were initiated by the Heracleidae who brought them in as mercenaries, or at least as allies. Once well inside Achaean Greece, the Dorians did exactly as the Teutons employed by the armies of Rome were later to do, they decided to carve out new kingdoms of their own.

According to legend, the first Dorian invasion of Greece came to a premature end, for the Dorians were defeated in their first battle at the Isthmus of Corinth around 1220 B.C., by a combination of Achaeans. This battle was decided in Indo-European style by single combat between two champions; the Dorian champion, Hyllus, who claimed to be the son of Heracles, being slain by the Achaean champion. Subsequently, however, the Dorians renewed their invasion by land and by sea, seizing Crete and many of the Aegean islands, and also forcing their way into the Peloponnese, where they conquered Pylos and established the state of Lacedemeon and its neighbour, Messena.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

In Thessaly they also replaced nine Achaean kingdoms by four large states, Larisa, Crannon, Pharsalus and Pherae (Nixon, 1968 p. 81). Everywhere the Dorians conquered, they divided up the land in regular lots, allocating it not to individuals but to families. In particular the warrior nobles received large estates which were worked by slave or serf labour, so that they would be free to devote themselves to military duties.

The Dorian invaders first appeared in the Peloponnese from Illyria around 1200 B.C., when the palace of Neleids at Pylos was destroyed and the palace at Knossos in Crete was also finally abandoned. Athens held out against them behind her Cyclopean walls, and thus retained her autochthonous character, but much of Achaean Greece fell. These Dorians possessed a tribal rather than an Heroic society, and wherever they settled the old Mycenean society gave way to a new social system, neither tribal in the traditional pattern of clan-based organization nor Heroic like that of the Homeric Achaeans – for kings played little part in it. To some extent it appears to have resembled the pattern still retained by the Indo-European Macedonians in later centuries, in which the nobles dominate the scene, but the people foregather in popular assemblies, which represent the "militia." The Dorians refused to allow power to become concentrated in the hands of the royal household as the Achaeans had done, and preferred a "patrician" style organization, in which the state was seen as a single extended family, carefully protecting its member lineage.

The Establishment of Sparta

In the Peloponnese, according to Huxley, the Dorians entered the upper valley of the Eurotas in two separate migrations, establishing there two independent states, which remained under separate elected kings until eventually they merged into the single city of Sparta. This city was unique in lacking walls – because the military reputation of the Spartiats made walls unnecessary. As a result of this image the "Spartans" acquired a dual army kingship. Huxley regards this as an historical accident (Huxley, 1962 p. 16), but the fact that Rome acquired two supreme magistrates after abolishing the monarchy, and that the Celts occasionally appointed dual magistrates, suggests that the Spartan kingship might not be a unique accident – but may reflect an as yet inadequately identified western Indo-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

European tradition.

The Dorian conquerors of Sparta became a wholly noble class – the Spartiats – if we adopt the view that the Achaean population remained in Lacedemeon and that the Perioiki, or Lacedemeon freemen, were descended from the original free Achaeans, who, Hellenic in origin, would have been acceptable as inferior kinsmen. The fact that members of the unconquered Achaean states subsequently participated in the Olympic games, which were reserved for those of Hellenic descent, would support the view that the Perioiki – "those who lived around" – might well have been Achaeans who were permitted to retain some land rights as freemen because of their Hellenic background and because it was easier to win the support of a numerous population in this fashion than to attempt to enslave them along with the Helots. In the light of this interpretation, the Helots would have been the lower classes of Achaean society. There is still no concensus of opinion on this matter, as it can be argued that the Dorians came in large numbers, and brought with them their own "farmer" class who became the Perioiki (Burn, 1936, p. 107). Furthermore, the Spartan custom of declaring war *annually* against the Helots would seem to have been inappropriate if the Perioiki had also been recruited from the defeated autochthonous population.

Emergence of the 'Family-State'

Muller, in "Dorians" (II, p. 71) held that the Spartans were Dorian people who adhered to the older Heroic ideals, but he seems to make this assumption simply on the basis of their militarism. Since Muller, historians of the Heroic ages, such as Chadwick and de Vries, have discarded militarism as an adequate criterion of an Heroic age, and emphasize instead the pre-eminence of king and court – as distinct from councils and magistrates – and the pre-eminence of the *hetairoi*, instead of the citizen army. But as Burns says: "What is surprising about Homer is . . . his heroes are individuals. The loyalty of their warriors is individual likewise, the loyalty of house carls to their master is not social and patriotic . . . nothing is more striking in Homer than the morality of the heroes . . . it is based on no penal law or divine sanction, . . . sometimes Homer would simply ask, 'what will people say?'" (Burns,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

1936, p. 6). Sparta was undoubtedly the antithesis of the Heroic society from this point of view, and Dorian allegiance was patriotism to the nation, not personal to the king.

Sparta and Crete best exemplify the new kind of nationalistic family-state which developed out of the Dorian tribal system — kings survive for religious, charismatic functions: instead of a royal household the state becomes a gigantic communal household. The Greek concept of family is expressed by *oika*'s, 'companions at the board' (Schrader 1890, p. 396) and the Spartiat men eat communally — even the slaves are the property of the state-household.

Spartan and Doric-Cretan society were similar in so many ways that some historians have asked whether the Spartans did not borrow a number of their institutions, such as that of the Ephor, from the Cretans. Again it is undecided as to whether we have here a case of cultural diffusion or common tradition. The absence of any mention of Ephors or "proto-Ephors" in earlier Spartan tradition favours the theory that the Ephors — and with them the communal messes and entire family-state philosophy — were derived from Crete but data regarding Lacedemeon customs prior to the "reforms" of Lycurgus is incomplete. These latter may have been little more than a rationalization and reinforcement of existing customs, already present in embryo-form at least, possibly given more precise forms by copying the parallel and more developed Cretan traditions. As Chrimes says: "what the historians have been accustomed to regard as purely Spartan institutions were in the social sphere widely shared by other Dorian Greeks." He arrives at this conclusion following a comparison of Spartan social institutions with those of other Dorian states, including Crete, and also is led to reject the idea of substantial non-Dorian features in the Spartan social and political system, although he admits that all Dorian societies did acquire some non-Dorian influences (Chrimes, 1952, p. 272). In short, the sharp distinctions between Spartan and Athenian ideals of social organization are rooted in a wider pattern of contrasts — seldom emphasized by historians — between the Dorian states generally and the post-Homeric Achaean states, whose social life is portrayed by Hesiod.

Burns describes the Spartan state as "national socialist", and indeed it does appear to be based ultimately on the con-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cept that all people and all land belong first and foremost to the "race" or family-state; the family-state theoretically making provision for all (by the allocation of land) not according to their needs but according to rank, as determined by purity of blood. Non-members of this enlarged "family," born within the state limits, were regarded as mere property, and they were distributed among the full-born members, as slaves without rights. Whereas in Rome, and in Athens and the other Achaean lands, it was the father who decided whether the new-born child should live or be exposed, "it was only the 'national socialism' of classical Sparta that took this decision out of the father's hand and vested it in a board of officials of the state." (Burn, 1936, p. 171).

Dominance of 'Patrician' Concepts

Among those states which were of Dorian origin, there was thus no Heroic age. The Dorian invaders brought with them the general Indo-European tribal system of elective kings, councils of elders, and folk assemblies as well as a tripartite society of warriors, priests and farmers. This they tended to convert into an oligarchical "patrician" style system (even though Sparta retained the institution of kingship) based upon a family-state philosophy. Every effort was made to prevent an undue concentration of power in the hands of a single household, and although Sparta became intensely nationalist and conservative, resenting all alien ideas and renowned for her "archaic" constitution, in reality the Spartan social system, whether modified greatly by Lycurgus or not, was the result of a steady evolution, far more sophisticated than the original Indo-European tribal system could have been.

Even the militarism of Sparta is a direct development of early Dorian tribal militarism, and the old assembly of the people was a typical Indo-European assembly of the army. As Jaeger says "the assembly of the Spartan people was simply the old muster of the army originally. It did not debate, but shouted Yes and No to proposals put before it by the Council of Elders." (Jaeger, 1965, p. 82). But because the Spartans developed a patrician society, instead of entrusting all functions to the royal household, in later Sparta it was the *gerousia* or Council of Elders that called or dissolved the Assembly, not the King.

The decision to restrict the power of the kings and royal

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

household in the interests of Spartiat egality was paralleled in other Doric lands, and the Messenians had no more kings after Aristodemus committed suicide, appointing generals (*strategos*) with unlimited power in times of war. That the charismatic nature of kingship came to be forgotten throughout Greece is evidenced by Aristotle's inability to understand the familistic and ritualistic nature of Indo-European tribal kings (Burckhardt, 1963, p. 19).

Each Dorian tribe appears to have comprised originally three phyles, and the Spartan state was named Lacedemeon after the tribal name. The strong tribal cohesion of the Dorians was reflected in the fact that every clan had its own migration legends. "The Greeks are keenly aware of their origins and their settlements, even though they express this awareness in myths. They personify their past by means of tribal heroes who flee and later achieve new dominion. . . the legends, graves and cults centered about their heroes are an earnest of the strong vitality later expressed in the polis" (Burckhardt, 1963, p. 6). By contrast, the relatively non-tribal Teutonic nations of the middle ages had only the haziest ideas of their own origins, representing, as they so often did, alliances and admixtures of diverse peoples under charismatic, heroic leaders.

As the tribal system gave way to a patrician "family-state," the Spartan clans declined in significance (Athenaeus, IV, 141) and the warrior tribesmen found themselves drawn together as Spartiats in the face of a numerically superior subserviant population. The Spartan kings were traditionally not only religious but also military leaders, aided originally by a council of elders and the assembly of the army. Because of the large conquered population and the general turbulence, they reinforced rather than abandoned their military preparedness, and by 900 B.C. a permanent military camp which was called Sparta (meaning "seed-land," a sign of the Spartan interest in consanguinity and human stock-breeding) had been established.

Around this camp lay the hereditary family estates, worked by slaves while the family heads and their sons (the Spartiats) lived in military messes at the camp and practiced their war exercises daily. These common "army" messes were first called *andreia* at Sparta, a name they have in Alkman in the seventh century, and Aristotle pointed out that the Cretans also had common messes called *andreia*, later known as *syssitia*. As Huxley points out (1962): "The common meal, however, was by no means

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

without precedence among other Indo-European speaking peoples, and it would be hard to believe that a religious and family-minded people such as the Spartans would not have already placed considerable emphasis upon the ceremony of eating with friends." If, therefore, the *syssitia* were borrowed from Crete, they would have been accepted by Spartans with alacrity, we would suppose, as a trait which could easily and readily be fitted into their own philosophy. In the interests of military efficiency, luxury and useless innovations were prohibited, and even the meals retained a traditional peasant simplicity.

It was in the eighth century B.C. that the decision was taken by the Council of Elders or *gerousia* to restrain the powers of the kings by the appointment of elected nobles as Ephors, or inspecting officials, and from then on the real power resided with an oligarchy of patricians, representing an elite among the Spartiat warrior class – who described themselves, nevertheless, as *homoioi*, free kinsmen who were equals by virtue of the bonds of blood and a shared "birthright". In most of the old Achaean states, the aristocracy was shortly to lose its power, as the phalanx of trained foot soldiers replaced the cavalry of the nobles in military technology and the growth of the mercantile marine produced merchants more wealthy then the aristocracy. But the Spartiats were realistic enough to see the trend, and by becoming heavily armed foot soldiers themselves, contributed to the diffusion of the new technique.

"The Creation of Centuries"

Crete especially had a system somewhat similar to that of Sparta, and the Spartan family-state was either admired or anathemised throughout the Hellenic world. Even in Athens, Sparta had its admirers among the aristocracy, and when Croesus asked Solon of Athens who was the most unfortunate man in the world, Solon replied that it was Tellos of Athens, who had seen his city prosper, had produced gallant sons, and had ended his life in battle fighting for Athens. Solon was far from being an imitator of Sparta, but the ideal expressed in his response to Croesus was also the ideal of the Spartan philosophy. The individual and the family were but links in a larger

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

reality, the family-state. While in Athens democracy became the vogue, and the state became an abstract concept, in Sparta the state remained the endogamous Spartiat kindred, conceived as a single enlarged household, rather than as a group of intermarrying clans, headed by a small oligarchical group of family 'elders' or patricians. Sparta was essentially a creation of ancient folk society, not modern mass society. As Jaeger says "Sparta was a survival of an earlier, simpler stage in social life, the stage that is characterised by strong racial and communal solidarity and scant individual initiative. Sparta's system was the creation of centuries" (Jaeger, 1965, p. 84).

The family-state raised kinship relations to a more universal level. Whatever helped the family-state was regarded as good, whatever injured it as bad. The essentially narrow selfishness of heroic morality was at least broadened into a 'national' patriotism, even though this involved the merciless suppression of a rebellious majority. The individual Spartiat, at any rate, no longer faced fate alone; the enlarged household gave a greater sense of social solidarity; it removed the sting of death, and gave every loyal Spartiat a sense of immortality in the survival and security of the family-state. As Hammond expresses it "during this period social organization and religious belief were in exceptionally close accord. Each family worshipped Hestia, goddess of the hearth, Zeus Herkios, protector of the courtyard, and its own gods and heroes." The protection of the gods was only to be obtained by carrying out one's duties to one's family, to one's kindred, and hence to Sparta." So too each state worshipped Hestia, and its divine founder and the gods and heroes personal to its history and locality. If the members of a state lived in concord, their gods aided them, but if civil war or sacrilege ensued, pollution and retribution affected all members of the state" (Hammond 1959, p. 169). Awareness, even of a pan-Dorian consciousness seems apparent at times, as when Damoratus, ex-king of Sparta, tells Xerxes "I have an admiration for all the Hellenic populations of the so-called Dorian countries" (Herod. VII, 101).

The Spartan conquest of the plain of Messena was presumably to provide estates for the growing Spartan aristocracy, but it also brought special problems in its trail, for the newly conquered people who were reduced to serfdom were themselves Dorians, and for the first time Sparta now ruled over subject Dorians who had been demoted to Helot status. Also, following

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the conquest of Messena, there was a demand for a share in the land by a substantial class of Partheniai, illegitimate offspring of unmarried women, and also Epeunaktai, a class of freedmen married to Spartan women. As the offspring of Perioiki and Helots, by Spartan fathers, these freedmen were treated as superior to slaves, but while their services were permitted in the army and small estates would be provided for their maintainance, they were not granted any share in the vast estates which were now being carved out for landless young men of the aristocratic Spartan class, and an attempted coup was only averted by swift action of the government. To avert further trouble, the Spartan government decided to follow the prevailing vogue and start a new Spartan colony, primarily for these Partheniai, at Taros in Italy, this being done in 706 B.C. The Partheniai obtained the lands they desired, but not within the Peloponnese, where they had proved that they constituted a threat to Spartiat supremacy.

The Decline of Sparta

After the conquest of Messena, military preparedness became even more necessary as the Spartiat families were conscious of being "few in the midst of many foes" as Brasidas expressed it (Thucyd, IV, 126) in the fifth century B.C., at which time it is estimated there were probably 9,000 Spartiats, 30,000 Perioiki and 80,000 Helot families (Plutarch, Lycurgus, 8). Every Spartiat family was entitled to own seven Helot families, who may not be killed, since they were the property of the state. In point of reality, it would seem that recalcitrant Helots were indeed quite frequently slain, as part of a deliberate state policy to prevent any uprising against the Spartial elite. (Plutarch, Lycurgus, 27). Indeed, Huxley comments that dangerously competent Helots may also have been slaughtered: "During the Peloponnesian war, two thousand Helots who had been given their freedom for loyal service in battle, were removed without trace" (Huxley, 1962, p. 95).

In common with the emphasis upon the family state as the supreme 'extended family', nationalist poetry was encouraged, and even foreign poets such as Alkman who were admirers of the Spartan system were welcomed and honoured. Religion, emphasized the state cults rather than the individual family

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cults, and solemn festivals were held regularly for those gods, such as Apollo and Artemus, who were associated with Lacedemeon as a family-state. Women, too, were brought out from seclusion, and as potential mothers exercised publicly alongside the young men, both in a state of innocent nudity, to ensure that their bodies as well as their minds would be fit to serve the family state by the procreation of healthy war-material. Renowned for their beauty, for the stock-breeding and race-conscious outlook of the Spartiats placed importance – as did the other Greeks – upon beauty as a badge (if not a prerogative) of nobility, they were nevertheless strictly virtuous, until, at last, the elitest philosophy began to fall into decay, when talk of the profligacies of rich heiresses becomes frequent. Down to the fifth century, at least, a Spartan father would be expected to see his daughter put to death, if found engaged in pre-marital promiscuity. The Spartiat family-state dominated the lives of its members, and the limit of the family concept was extended to embrace the entire endogamous Spartiat class, and thus by implication, the Lacedemeon state, which was their communal private property.

The conservatism and distaste for trade characteristic of almost any landed elite led the Spartiat trustee families to scorn commerce and industry, and eventually to undermine the Spartan economy. What was partly true of the non-Dorian aristocracy of Athens, was particularly true of the Spartiat aristocracy of Lacedemonia: "the aristocratic tradition also affected the Greek attitude of contempt towards trade, which was in part a survival from the prejudice of a military aristocracy" (Herodotas II, 167). Attempts were made to discourage the replacement of barter by money, but whether the Spartiats liked the new developments or not, the fact was that Greece was moving from a folk society into a mass society, from a gemeinschaft to a gesellschaft condition, and try though the Spartan old guard might, they could not eventually prevent the rise of money in place of barter, commerce replacing farming as a major source of income. In consequence, the economic basis which supported the Spartiat aristocracy was steadily eroded.

Since the land was conceptually allocated as *klaroi* estates to provide support for families while they produced children for the service of the state, this land was held by individuals in trust for their families – and indeed in trust also for the wider

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

kindred – the entire state. The weakness in this system was that no provision was made for periodic redistribution, either "*per capita*" or "*per stirps*," and inequalities of wealth arose as a result of natural inequalities in the incidence of births – a situation which was aggravated when families were later permitted to sell their estates. This finally led to the economic confusion which contributed as much as anything else to the eventual destruction of the Spartan system. "Such prohibition (against the sale of family land) is well attested in Sparta; but there it was later rendered nugatory by legalization of gifts and bequests – with disastrous results. The relaxation of the primitive rule in Sparta had the effect that in the course of a few generations all the land had come into the hands of not more than a hundred rich men, while the rest were impoverished" (Woodhouse, 1965, p. 78).

Under such circumstances, the trustee concept of family and family-state was clearly dead, the young Spartiat warriors trained with such laborious care in the arts of war drifted away to earn a living as mercenaries in the armies of other states, and Spartan armies reflected an increasing-diminution in the number of specialist Spartiat warriors they could field – and an increasing reliance on the more lightly armed and less highly-trained Perioiki "militia." Virtually undefeated in war, over a period of several centuries, Sparta finally lost its independence to the invading Romans primarily because it ran out of Spartiat warriors. However, the reasons for this decline in the numbers of the Spartiat class are to be found in the socio-economic problems with which a conservative society must contend if it refuses to adapt its responses (as opposed to its ideals) to the new challenges arising from the continuous process of change taking place in the external environment.

REFERENCES

Burckhardt, Jacob
1963 History of Greek Culture (tr. Palmer Hilty) Constable, London (1902)
Burn, A.R.
1936 The World of Hesiod. Kegan Paul, London
Chrimes, K.M.T.
1952 Ancient Sparta. Philosophical Library N.Y.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

De Coulanges, Fustel
1864 The Ancient City. Doubleday, London (1955)
Ehrenberg, Victor
1964 Society and Civilisation in Greece and Rome. Harvard U.P.
Glotz, G.
1929 The Greek City. Kegan Paul, London
Halliday, W.R.
1967 Growth of the City-State. Argonaut Press. N.Y. (1923)
Hammond, N.G.L.
1959 A History of Greece. Oxford U.P.
Huxley, G.L.
1962 Early Sparta. Faber and Faber
Jaeger, Werner
1965 Paidea: the Ideals of Greek Culture. Oxford U. P. (tr. 1939(
Müller, Max
1869 Chips from a German Workshop. Charles Schribner & Co., New York
1908 Sacred Books of the East. (Ed.) Oxford U. P.
Nilsson, Martin P.
1964 A History of Greek Religion. W. W. Norton & Co., N.Y.
Nixon, I.G.
1968 The Rise of the Dorians. F. A. Praeger, N. Y.
Palmer, L.R.
1955 Achaeans and Indo-Europeans. Oxford U. P.
Toynbee, Arnold J.
1950 Greek Civilisation and Character. Beacon Press, Boston
Woodhouse, W. J.
1965 Solon the Liberator. Octagon Books, N. Y.
Zimmerman, Carle C.
1947 Family and Civilisation. Harper & Bros., N. Y.
Zimmern, Alfred
1931 The Greek Commonwealth, Oxford U. P.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Tribal Art...

A handsomely illustrated series of books on the art of tribal societies throughout the world.

"These volumes are superior to standard quality paperbacks in both durability and appearance. Recommended."–*Library Journal*

Just published

The Art of Tahiti

By TERENCE BARROW. Until disease, missionary activity and colonization changed the nature of their society, the Tahitians excelled in the production of wooden sculpture, ceremonial costumes and weapons. The illustrations here include a great number of these artifacts as well as pictures of Tahitian life. *48 color and 50 b&w illustrations.* $6.95 paper

The Body Decorated

By VICTORIA EBIN. This book discusses body decoration, both permanent (e.g. tattooing and scarification) and temporary (e.g. body painting and hair adornment) in tribal Africa, Asia, and Oceania from the 18th century to the present. *48 color and 49 b&w illustrations.* $6.95 paper

Also available

Portrait Masks of the Northwest Coast

By JONATHAN KING. Only some hundred of these magnificent masks, carved in the late 18th and 19th centuries, are in existence today. This handsome book investigates them against the tribal societies in which they were used, analyzing their function and the role they played in ceremonies. *48 color and 52 b&w illustrations.* $6.95 paper

The Houses of Mankind

By COLIN DULY. Exploring the domestic architecture of tribal people of the world from the 16th century to the present, this book conveys the excitement to be found in recognizing how tribal man has shaped, and therefore humanized, his domestic space. *48 color and 52 b&w illustrations.* $6.95 paper

Thames and Hudson Inc.

500 Fifth Avenue, New York, New York 10036 • Distributed by W.W. NORTON & CO., INC.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

BOOK REVIEWS

THE DURKHEIMIAN SCHOOL: A SYSTEMATIC AND COMPREHENSIVE BIBLIOGRAPHY.
By Y. Nandan. Westport: Greenwood Press 1977 457 pp. Cloth.

Emile Durkheim has been described as the "founder of modern sociology" to the extent that he placed emphasis upon the role of society as an integral whole, rather than upon the analysis of the individual as a discrete entity. Although criticized by cultural materialists for failing to recognize the role of economic forces (and for other opinions, such as his conclusion that societies which were racially homogeneous would operate more efficiently and with less friction than societies which lacked such homogeneity), Durkheim's contribution to social science is still acknowledged by more traditional social scientists and this compilation of some 7,200 entries constitutes a useful resource book for such researchers.

JAMAICA FAREWELL: JAMAICAN MIGRANTS IN LONDON.
Nancy Foner. University of California Press, Berkeley. 1978, 262 pp. Cloth.

Contemporary popular thought assumes that black migrants who leave Jamaica to take up residence in Britain necessarily find themselves uprooted from a homeland of considerable homogeneity and antiquity and set down for the first time in their community's history in an alien, white society. This, of course, is not the case, since Jamaica had a totally white population of British origin in the 1660's and the black immigrants to Britain are in a broad sense replicating the experience of their ancestors who came to Jamaica and eventually displaced the established all-white yeoman farmer and artisan population of that time.

Contemporary post-colonial Jamaica is economically depressed and politically repressed. Many black Jamaicans consequently still seek to leave the depressed conditions on the overcrowded island to benefit from the less depressed conditions in the also overcrowded British Isles. Author Nancy Foner analyses status changes experienced by those who migrate as a result of the continued expansion of the Jamaican population. Considerable field work is involved.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

PERSPECTIVES ON ETHNICITY

By Regina E. Holloway and Serghei Arutiunov (Editors). Mouton, The Hague. 1978 Cloth.

A collection of twenty-six articles by different authors, half of whom are of Russian background, which seeks to study problems relating to ethnicity as identified according to family and group background, acculturation, boundary maintenance devices and the future of ethnicity. Since communist theory does not provide any significant role for ethnicity in the supposed future society, and yet the USSR is a quiltwork of diverse races and cultures held together as much by the concept of national loyalties as by repressive measures, the authorship of these papers is perhaps as significant as their contents.

MEDICAL ANTHROPOLOGY

By George M. Foster and Barbara G. Anderson. John Wiley, New York, 354 pp. Cloth

Considerable ethnographical material is introduced in this work to authenticate the utility of medical anthropology as a field of research. This is supported by a wealth of bibliographic references.

Since human sickness, like all other human behavior, has a biological and genetic basis, the field of medical anthropology deserves increasing attention from physical anthropologists, and this text would be enhanced by more material concerning the relationship between sickness, genetics and physical anthropology. The authors cover biocultural adaptation well, and touch on medical ecology, but the bulk of the book is devoted to subjects such as "ethnopsychiatry" and "sick roles". Useful emphasis is placed upon the fact that medical assumptions are frequently generalized and assumed to be applicable to men and women throughout the world, whereas such statistics and principles can only be regarded as valid for the society in which they were collated.

TWINS: BLACK AND WHITE

By R. Travis Osborne, Foundation for Human Understanding, Box 5712, Athens, Georgia, 286 pp., Cloth.

Supported by an extensive bibliography on the subject of testing and heredity, this book represents over ten years of scientific study by a scholar already well-known for his contributions to the study of IQ in relation to heritability.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Osborne opens the book with an account of the history of twin studies, and then proceeds to survey research work in the areas of twin studies in ability, personality and interests; psychological tests; primary mental ability tests; the Cattell Culture Fair Test, and even electroencephalograms of twins.

He finds that the pattern of mean difference in IQ is remarkably consistent, regardless of the nature of the task required by the mental test, and also that despite the customary higher IQ testing performance of subjects classified as white above those classified as negro, the heritability ratios for both races tend to be alike, indicating that 50 to 70% of mental test variance is due to genetic rather than environmental factors. There being no measurable difference in heritability of IQ between the two races, the role of genetic factors in the ability of individuals to perform IQ and other tests considered here appears to be supported without ground for contradiction.

It is not surprising, therefore, that we find Arthur Jensen paying tribute to Osborne's work, stating that "this is the first and still the only technically satisfactory large-scale comparison of mental abilities of black and white twins and of the heritability of identical twins. The data and results, which are presented with admirable thoroughness, indicate that the correlations between twins and the estimates of heritability derived therefrom do not differ appreciably in whites and blacks on a variety of mental tests."

A valuable addition to the record of research in behavioral genetics, which will be required reading for scholars in this field.

ETHICS IN SOCIAL AND BEHAVIORAL RESEARCH

Edward Diener and Rick Crandall. University of Chicago Press, Chicago. 266 pp., 1978

Considerable discussion and debate has arisen in anthropological circles during recent years regarding the concept of an ethical code for social and behavioral research. Guidelines have been laid down by the American Anthropological Association and some universities have declined to support, or even accept funds for the support of scientific research which they felt to be "unethical".

The problem is an old one. How can any field of human research that purports to be "scientific" accept non-scientific (i.e. ethical) guidelines which will limit the availability of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

knowledge on certain topics or which might prevent the testing of particular hypotheses on the grounds that knowledge of such data or of the correctness of such hypotheses might be socially injurious to some individual or group of individuals? Such reasoning would have prevented scholars from finally concluding that the earth was not flat but round, as the disclosure of that information, as also of information relating to the evolutionary process, was definitely injurious to the well-being of various established religious bodies.

Certainly, on the face of it specific individual research subjects who are interviewed would appear to have specific rights concerning privacy, consent and even avoidance of deception – but where is a line to be drawn, if indeed it is correct to draw any line which limits the boundaries of scientific enquiry? Even the argument that the best safeguard against scientific abuse is that the scientists should themselves be properly schooled in "ethical precepts" is logically indefensible, as this would imply that the minds of those whose duty it is to collect and study data from every possible angle, and to formulate whatever kinds of hypotheses the problem may call for, are in effect to be preschooled into rejecting certain types of data as improper, and even into rejecting certain hypotheses as immoral – regardless of whether they represent or may conceivably be expected to represent observable reality.

No research can be value-free, but it hardly enhances the image of social scientists, in their efforts to achieve true "scientific status", when researchers are told that they must accept certain values and reject others. Fortunately for mathematicians there is nothing "moral" or "immoral" about numbers – but the study of human beings and human behavior has, since its inception, been completely snarled by considerations as to what and what is not "moral" in the way of scientific enquiry.

The authors of this work seem to believe that the social sciences have some claim to search for "objectivity." They even argue that there is no documentary evidence to suggest that any subjects of social research have ever suffered "permanent damage" from the publication of the results of such research. But once they enter into debates such as this their case becomes weaker. Possibly the real issue is whether or not science must be shackled in the interests of what this or that society regards as

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

moral or immoral. The moment we clarify the issue in these terms, it becomes apparent from the historical record that scientists must expect to be regulated, to a greater or lesser extent, by whatever society they belong to. No society has yet been identified which places devotion to scientific knowledge at the top of its value-ladder. Until such a society emerges, the debate about "ethics in social and behavioral research" will surely continue as an inevitable part of the social process, regardless of its desirability from the point of view of science.

A HISTORICAL ATLAS OF SOUTH ASIA

Joseph E. Schwartzberg (Editor) University of Chicago Press, Chicago. 352 pp., 1978

A major enterprise, involving contributions from some 64 scholars, and a broad historical coverage of South Asia. Despite some attention to languages, a massive bibliography, and some 900 maps and charts, the work contains little of interest to the anthropologist, omitting information about regional characteristics, and providing no information of value to the physical anthropologist.

ANCESTORS

By William H. Newell (ed.), Aldine Press, Chicago. 1976. 403 pp.

As contemporary social scientists have tended to swing away from the study of historical and less complex societies to the problems generated by contemporary western urbanized and industrial societies, and to the problems of peasant societies endeavouring to adapt to world industrial pressures, the study of ancestors and of ancestor worship in all its broad diversity of implications has tended to move to the periphery of anthropological attention. However, it remains apparent that to the extent that family-conscious ethnic communities are frequently more successful in competitive modern societies, because of the cooperative strength which they gain from shared loyalties, the role of family-consciousness, and of attitudes towards ancestors as a major contributing factor to such family-consciousness, is still an appropriate and relevant topic.

The collection of essays contained in this publication concentrate on those societies which have in present times retained a high degree of reverence for their ancestors, and particular emphasis is placed upon African ancestor-worship (which frequently is based upon fear of the dead spirits) as opposed to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ancestor worship in China and Japan, where the ancestors are revered rather than feared. Comparisons are also made with attitudes towards ancestors in other family-conscious societies, such as the various traditional Jewish communities.

PRIMATE BIO-SOCIAL DEVELOPMENT: BIOLOGICAL, SOCIAL AND ECOLOGICAL DETERMINANTS

By Suzanne Chevalier-Skolnikoff and Fran E. Poirier (Editors). Garland, New York. 636 pp., 1979

A vitally interesting volume which will serve to reinforce the efforts of sociobiologists to draw attention to the ecological and biological components of human social behavior. Since sociocultural experimentation is more easily achieved with animals than with human communities, researchers can advance further in testing hypotheses when dealing with monkey and other animal communities than they can with human societies – in the same way that many medical advances of benefit to human beings have resulted from experimentation using animals.

Unfortunately the authors seldom touch upon the direct relevance of nonhuman research (especially primate research) to the study of human behavior, although the need for further studies in this area becomes readily apparent to readers of this book.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

OUR CONTRIBUTORS TO THIS ISSUE

PETER BOEV
The Anthropological Institute
University of Sofia, Bulgaria

BETTY DOUGLAS
Brookhaven Academy
Brookhaven, Mississippi 39601

GARNETT HAWKINS
Department of Sociology and Anthropology
University of Southern Mississippi, U.S.A.

ARMIN HEYMER
Forschungsstelle für Humanethologie
D 8131 Seewiesen, W. Germany

SHIRLEY ANN KAHLERT
The University of California, Los Angeles

JAMES J. PRESTON
Departement of Anthropology
State University of New York, College at Oneonta

G. P. REDDY
Department of Anthropology
Andhra University, India

JOHN W. RICHARDS
Institute for the Study of Man
Washington, D.C. 20009, U.S.A.

DONALD A. SWAN
Department of Sociology and Anthropology
University of Southern Mississippi, U.S.A.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

INDEX TO VOLUME TWENTY

Boev, Peter
The Anthropological Origins of the Thracians 321
Heymer, Armin
The Bayaka Pygmies of Central Africa in the Light
of Human Ethological Research Work 173
Hromnik, Cyril A.
Are There any Shona?
A Question Left Unanswered by Historians 11
Irsigler, F. J.
Ecosystem and Genetic System 5
Kahlert, Shirley Ann
A Surprising Antiquity: Edward Lhuyd and
Literary Archaeology 305
Maher, Peter J.
From IE *Aḱmon and Germanic hammer/heaven 161
Miszkiewicz, Brunon
The Anthropological Analysis of Germanic Cranial
Series from the Merovingian Period according to
the Approximation Method of Adam Wanke 35
Preston, James J.
Sacred Centers and Symbolic Networks in South Asia 259
Reddy, G. P.
Religious Adaptation in Economic Organization:
The Case of Pottery Making and Exchange in Chowra Island 295
Richards, John W.
Sacral Kings of Iran 143
The Evolution of the Spartan Social System 331
Swan, Donald, Garnett Hawkins, and Betty Douglas
The Relation between ABO Blood Type and
Factor of Personality among
South Mississippi 'Anglo-Saxon' School Children 205
Taylor, John Walter
Tree Worship 79

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

HOPEWELL ARCHAEOLOGY
The Chillicothe Conference

MCJA Special Paper
No. 3

edited by
David S. Brose
and N'omi Greber

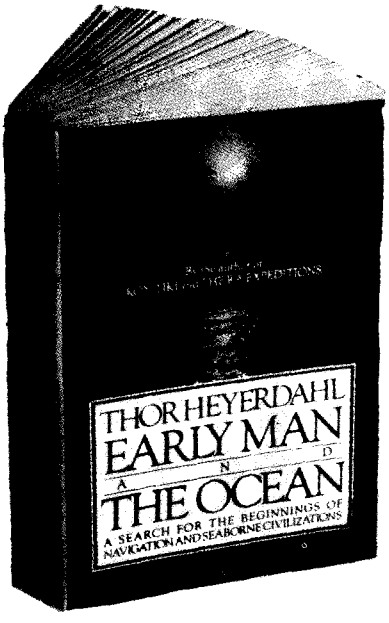
From the first discovery of the prehistoric mounds and earthworks of the Middle West in the eighteenth century, the culture that produced them has been a major focus of American archaeological investigation. And the work continues in one of the most active archaeological areas of the continent, raising new questions and problems of establishing temporal and regional boundaries, cultural sequences, and relationships of the Hopewell with such other cultures as the Adena.

The Chillicothe Conference brought together those presently most actively engaged in Hopewell research. The participants represented a broad geographical area, explored many different systemic and systematic approaches, and aired a variety of viewpoints.

Hopewell Archaeology will stand as the basic reference work on the Hopewell culture for years to come. For this reason it is being published in a cloth edition for library use as well as in paperback.

336 pages, 8½" x 11", illustrated, notes, bibliography
LC: 79-88607
Cloth ISBN 0-87338-235-8, $22.50
Paper ISBN 0-87338-236-6, $12.50

The Kent State University Press
Kent, Ohio 44242



"Absorbingly interesting...one of Heyerdahl's most important books."
—Wall Street Journal

In this "thorough and well argued" (*Booklist*) book, the author of *Kon-Tiki* and *The Ra Expeditions* offers compelling evidence for his longtime theory that men were crossing the oceans—spreading both their cultures and their genes—thousands of years before Columbus. $4.95

Now in Vintage paperback

at your bookstore
VINTAGE BOOKS
A division of Random House

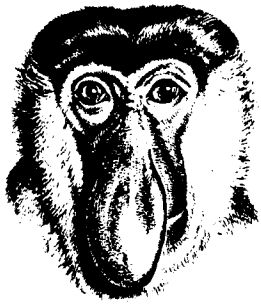
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

PERSPECTIVES ON HUMAN EVOLUTION

VOLUME 3
Human Origins: Louis Leakey and the East African Evidence.
G. L. Isaac and E. R. McCown, Editors, 591 pp., $10.95 paperback, 1976.

21 articles; among the authors:

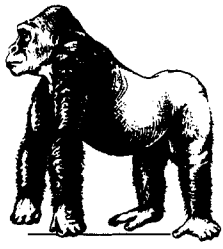
J. D. CLARK, G. L. ISAAC, F. C. HOWELL, M. D. LEAKEY, R. E. LEAKEY, P. V. TOBIAS, and a complete bibliography of the works of L. S. B. LEAKEY.



VOLUME 4
Human Evolution: Biosocial Perspectives
S. L. Washburn and E. R. McCown, Editors, 361 pp., $16.95, 1978.

10 articles:

BEACH on sex
FOSTER on language
HAMBURG on sex
KROGMAN on Piltdown
MacLEAN on the brain
MAYR on evolution
MYERS on brain and language
SCHULTZ's drawings of primates
WASHBURN & McCOWN on social science
WRIGHT on orang toolmaking



VOLUME 5
The Great Apes
D. A. Hamburg and E. R. McCown, Editors, 554 pp., $18.95, 1979.

22 articles; among the authors:

FOUTS, GOODALL, ITANI, KANO, NISHIDA and seven others on chimpanzee behavior.
FOSSEY and HARCOURT on gorilla.
GALDIKAS, MacKINNON, and RODMAN on the orang.
Analytic papers by DAVENPORT, HINDE, MASON, MENZEL, POPP and DeVORE.

The books in this series can be ordered from your bookseller or from:
Benjamin/Cummings Publishing Co., 2727 Sandhill Road, Menlo Park, California 94025

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

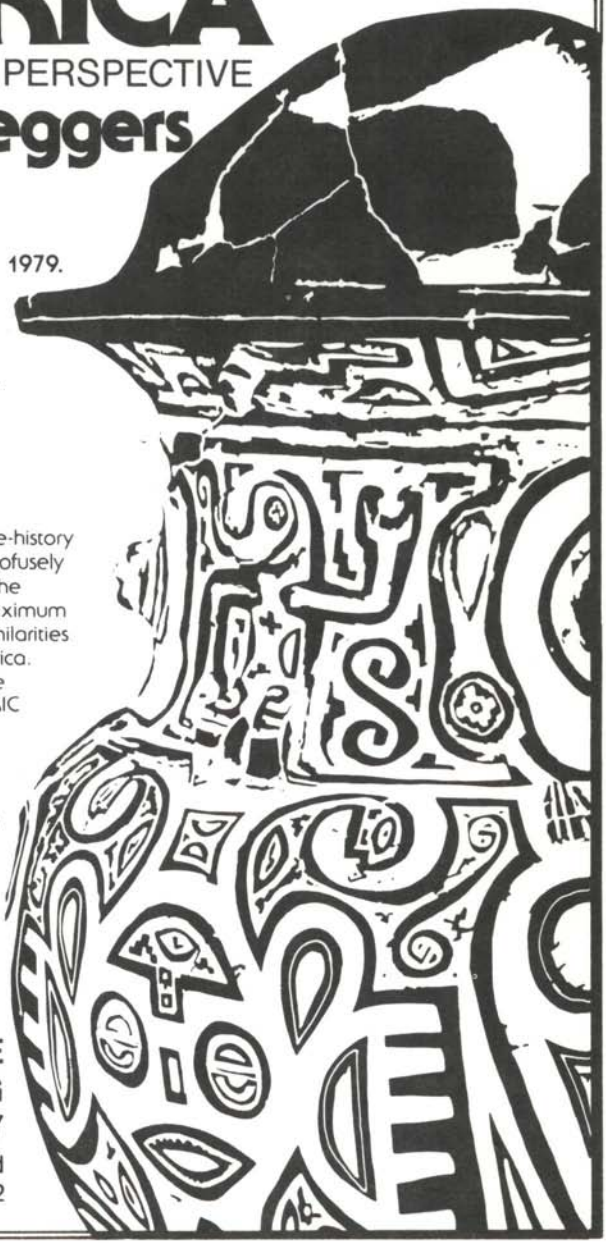
PREHISTORIC AMERICA

AN ECOLOGICAL PERSPECTIVE

Betty J. Meggers

SMITHSONIAN INSTITUTION

New Revised Second Edition, 1979.
Now Available in Cloth
for the First Time!



A new edition of Betty Meggers' classic survey of new world archeology with a new preface examining recent findings from an ecological perspective.

Here the sweep of American pre-history is compressed into one, brief, profusely illustrated volume by adapting the culture-area concept to take maximum advantage of environmental similarities between North and South America. However, rather than take these parallels for granted, PREHISTORIC AMERICA recognizes them as phenomena that need to be explained. They are neither fortuitous nor inconsequential, but an indication of the strength of environmental pressures on cultural development.

1979. 208 pp. Cloth. $15.95.
Paper. $8.50. 100 illustrations.

ALDINE PUBLISHING COMPANY
200 Saw Mill River Road
Hawthorne, New York 10532

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Canadian Public Policy
Analyse de Politiques

In the four years since it was launched *Canadian Public Policy* has become established as the leading journal for the discussion of economic and social policy in Canada. It provides a forum for the discussion of ideas, results of research, criticism of policy and policy proposals.

SOME RECENT AND FORTHCOMING ARTICLES

D.K. ALPER and R.L. MONAHAN	Bill C-58 and the American Congress: The Politics of Retaliation
JOSEPH ARVAY	Newfoundland's Claim to Offshore Mineral Resources: An Overview of the Legal Issues
L. COPITHORNE	Natural Resources and Regional Disparities: A Skeptical View
M.J. GORDON	A World Scale National Corporation Industrial Strategy
J. LIGHTBODY	The Reform of a Metropolitan Government: The Case of Winnipeg, 1971
A.M. MOORE	Fact and Fantasy in the Unity Debate
S. OSTRY, G. DION and P. WEILER	Industrial Relations after Wage and Price Control: a panel discussion
A. TUPPER	Public Enterprise as Social Welfare: The Case of the Cape Breton Development Corporation
D. USHER	The English Response to the Prospect of the Separation of Quebec
J.R. WOOD	East Indians and Canada's New Immigration Policy

Editor: J. Vanderkamp

Editorial Office: Arts Building, University of Guelph. Guelph, Ontario, Canada, N1G 2W1

Annual Subscriptions: Individuals $14; institutions $18; students $9. Send order with advance payment to address above.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED